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Environmental Assessment

Wallupa/Wildcat Creek Road Reconstruction

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1 PURPOSE AND NEED FOR ACTION

1.1 *Introduction*

High rainfall occurred in northeastern Oregon during the spring of 2014, leading to extensive flooding throughout the region. Flooding along Wallupa and Wildcat Creeks in Wallowa County caused erosion of approximately 1,000 feet (ft) of the Wallupa/Wildcat Creek Road east of the town of Promise, Oregon. Wallowa County requested permission from the BLM to reconstruct the road, however since Wallowa County does not have a right of way (ROW) within the impacted segment of the Wallupa/Wildcat Creek Road, an Environmental Assessment needs to be completed.

1.2 *Decision to be Made*

This Environmental Assessment (EA) will provide the decision maker with the information needed to make the following decisions regarding the proposed reconstruction of the Wallupa / Wildcat Creek Project:

- Which alternative would better suit the objectives for the area provided in the Baker RMP and addresses the identified needs and issues?
- Would additional design criteria and monitoring requirements need to be applied to the proposed activities?
- Would the selected alternative have a significant effect on the human environment, therefore requiring preparation of an Environmental Impact Statement?

If an action alternative is selected, project implementation could begin in 2014.

1.3 *Issues and Critical Elements*

Issues are points of concern about environmental effects that may occur as a result of implementing the proposed action. They are generated by the public, other agencies, organizations, and BLM resource specialists in response to the proposed action.

Issues describe a dispute or present an unresolved conflict associated with potential environmental effects of the proposed action. Issues are used to formulate alternatives, prescribe project design elements, and focus the analysis on specific environmental effects. Significant issues are determined based on the potential geographic extent, duration of their effects, or intensity of interest or resource conflict, if not addressed through project design or otherwise mitigated. Issues for this project were identified by the Interdisciplinary Team (IDT) after scoping and preliminary analysis of the project area and reviewing public comments. The significant issues were approved by the Responsible Official (Wood, 2014).

The IDT identified several topics raised. These issues include:

- Archeological Concerns – This region is known to have a high amount of tribal ties. Several tribes have interest in the area.
- Fisheries – There are two species of concern within the project area which are Snake River Basin (SRB) steelhead Distinct Population Segment (DPS) (Oncorhynchus mykiss) and SRB spring/summer Chinook salmon Evolutionarily Significant Unit (ESU) (Oncorhynchus tshawytscha). Both fish species are listed as "threatened" under the Endangered Species Act (ESA) within the Wildcat and Wallupa Creek subwatersheds. Also, the entire area of proposed work is located within the Riparian Habitat Conservation Area (RCHA).
- Public Access

1.4 *Purpose and Need for Action*

The overall purpose of the Wallupa/Wildcat Road Reconstruction project is to restore safe vehicle passage along Wallupa/Wildcat Road between the towns of Wallowa and Troy, Oregon. This project is needed because Wallupa/Wildcat Road is an important connection between the communities of Wallowa and Troy for residential and commercial (logging and ranching) traffic, as well as providing access to the Grande Ronde River for recreationists. It is a vital artery for firefighting during the summer months and provides access for essential services in this remote part of Wallowa County.

1.5 *Location and Background*

The Wallupa/Wildcat Creek Road washouts are located in Township 4 North, Range 42 East, Sections 12, 13 and 14, and Township 4 North, Range 43 East, Sections 6 and 31 and lies approximately 3 miles east of Promise, Oregon (Figure 1-1). Currently, residents and recreationists must use one of the three alternative routes to access this area of the Grande Ronde River and town of Troy. These alternate routes include: the Powwatka Ridge Road (aka Troy Road), the Redmond Grade Road (aka Flora Grade road), or the Troy River Road. While these alternate routes do provide access, they can add travel time and are not always conducive to large vehicle travel.

The Wallupa/Wildcat Creek road runs adjacent to the streams in a very narrow steep basalt canyon, which leaves very little room for the streams to naturally move without interfering with the road system.

1.6 *Conformance to Laws and Regulations*

The Wallupa/Wildcat Creek road reconstruction project proposed action and the no action alternatives are consistent with the Baker Resource Management Plan (RMP) and Record of Decision (ROD), which was approved July, 12 1989 as well as all other laws and regulations.

Executive Order 11988 directs federal agencies to avoid to the extent possible the long- and short-term adverse impacts associated with the occupancy and modification of floodplains and to avoid direct or indirect support of floodplain development. The effects of each of the alternatives to floodplains, hydrology, and water quality are discussed below.

2 ALTERNATIVES

The following sections describe alternatives analyzed in detail in this EA, as well as alternatives that were initially considered but not carried forward in the full analysis. Evaluation of the range of potential alternatives to restore vehicle access resulted in two action alternatives and one alternative considered but eliminated from detailed analysis. Alternatives carried forward for analysis: (1) Alternative A –No Action, (2) Alternative B – Proposed Action.

2.1 *Alternative A – No Action*

NEPA requires the analysis of the No Action Alternative as a baseline, against which the effects of the "action alternatives" can be evaluated and compared. For the Wallupa/Wildcat Creek Road Reconstruction project, the No Action Alternative would keep the road in its current state of disrepair. Private landowners would have to drive approximately 10-15 miles additional miles on an alternate yet paralleling (i.e. Powwatka Ridge road) to be able to access their private lands in the area of the washout. In addition recreationists wishing to reach this same area of the Grande Ronde River would be required to use this same route.

2.2 *Alternative B - Proposed Action*

The available staging areas along this road are very limited, so most of the material will need to be placed as it is brought in. Located on private land, the first staging area is on the west side of the Wallupa Bridge. The second is about 50 feet from the stream channel in a wide area on the north side of the road between Sites 11 and 12. The third is by Site 16 and is about 40 feet from the stream channel on the north side of the road. The fourth is 1000 feet south of Site 19 and is about 50 feet from the edge of the creek with the road being about 100 feet from the creek. This could be a fueling station if the machinery is fueled on the road that is 100 feet away from the creek. The fifth staging area would be just north of Site 19. It is about 75 to 100 feet from the creek.

Work will start with installing straw filters at the borrow and stockpile drainages. Stock piling large toe rock and clean rock will occur as appropriate, to allow the work to be completed without having to wait for rock to be delivered to the site. Work at Sites 11 through 18 will start with work area isolation and fish salvage (in the channel with any running or standing water). Block nets will be installed upstream and downstream to isolate the area and salvage will

occur. Once the work area is isolated and salvage completed, the toe rock will be placed using an excavator. The toe rock will be placed on the bottom of the historic road fill area from upstream to downstream. The toe rock will be embedded below the active channel bottom (where possible as some areas are on bedrock) to prevent undermining of the rock. Clean rock 3" to 6" in size will be installed behind the toe rock to fill the voids and isolate the active flow from the finer fill materials. Using an excavator or backhoe, the fill material will be installed and using a compactor or backhoe will be compacted in lifts to help consolidate the material, prevent settling, and prevent future erosion. Compaction at Site 11 may be completed using a roller compactor. All work will be completed from the existing road surface. If a roller compactor is used to compact general fill, then a small access ramp will be built from the existing road surface to the fill in order to lower the roller compactor onto the lower layers of fill. It is expected that all these activities will be completed during the in water work window, but the fill activities after the placement of the toe rock and clean rock could be completed after the end of the in-water work window. Work at Sites 10 through 18 is expected to take about 8 to 16 hours at each site whereas work at Site 11 is expected to take about five days. To complete this amount of work in three weeks will require about three crews to be working on different sites at the same time. Standing or overhead vegetation is not anticipated to be impacted with these repairs.

Work at Site 19 will include the installation of block nets upstream and downstream and fish salvage on the site. A temporary culvert will be installed at the upstream end of the site. Precast concrete blocks and sandbags will then be added at the end of the culvert to divert all the flow through the culvert and isolate the roadway area from flowing water. The toe rock will then be installed and then clean rock will be installed behind the toe rock and around the culvert (as necessary) to keep the culvert in place and provide access to the opposite side of the creek for removing slide material encroaching on the active channel. A small access ramp will then be cut into the existing road fill to allow equipment to access the area where fill is being placed. Fill material will then be placed in the road fill area. Each lift of fill material will be compacted and the fill will be continued until completed. The culvert and associated materials will then be removed and the block nets will be removed. Work on Site 19 is expected to take about six days to complete. Standing or overhead vegetation is not anticipated to be impacted with these repairs.

The sequencing of work between the sites will depend on the numbers of crews working and how quickly the work on each site is completed for a particular crew. Work on Sites 19 and 11 will be started first. The work is anticipated to take two to three weeks to complete.

Table 1- The estimated fill volumes required for each site

Site	Length (ft)	Width from top edge of existing road to outside of toe (ft)	Height (ft)	Est. Volume of fill (cu. Yds.)	Est. Volume of toe rock (cu. Yds.)
19	145	20	12	1300	48

18	18	8 – Culvert Ends	10	10	8
17	85	4	4	10	28
16	213	6	8	120	70
	80	6	5	20	27
15	82	8	7	60	28
14	83	5	5	10	28
13	100	7	7	60	34
12	135	14	4	200	45
11	210	15	9	1000	70
Total				3225	600

Much of the stream channel will be dry during the in-water work window. Some could have water above Wildcat Creek, but the only area that is expected to have flowing water is Site 19. No more than one salvage effort will be needed at each site. For Sites 1 through 18 that have standing or flowing water present, block nets will be installed immediately upstream and downstream of each site as appropriate, and fish salvage will be completed. Dewatering is not expected to be needed. At Site 19, block nets will be installed upstream and downstream of the site and fish salvage will be completed. The active flow will then be diverted from the work area using a temporary culvert with precast concrete blocks and sandbags to keep the flow in the historic channel. Once the flow is in the historic channel, the toe rock will be placed where needed. Clean rock will be placed behind it and then fill will be placed. Dewatering is not expected to be needed as the remaining ponded water, after the flow is diverted through the culvert, will not be deep enough to remove. Once the work is complete, the culvert, appurtenances and block nets will be removed

Once the work area has been isolated, fish salvage will be conducted to remove any stranded fish in the isolated area by seining the area first, then through electrofishing if necessary. Electrofishing will be completed according to National Marine Fisheries Service (NMFS) and Oregon Department of Fish and Wildlife (ODFW) electrofishing guidelines, by an ODFW or other qualified biologist. All handled fish will be recorded. Captured fish will be placed in aerated buckets, examined, identified, and then released outside of the project area in similar habitat from which they were obtained or in pools located outside of the project area. Any fish injuries observed will result in a modification of the electrofishing settings. If electrofishing is utilized, fish capture will be conducted when stream temperatures are at or below 15°C (59°F) to the extent practical. Electrofishing will be conducted early in the day to minimize stress to salmonids. Care will be taken to avoid putting predators (if any are captured) into the same bucket as prey species. The amount of time fish spend in the buckets will be minimized to reduce impacts. Any listed fish will be noted and if mortality occurs to a listed fish species, it will be collected according to NMFS and US Fish and Wildlife Service (USFWS) requirements. After salvage is completed, the installation of the toe rock, clean rock and first

layer of fill, from upstream to down, will redirect the thalweg into the historic channel (if it is currently in the fill area).

The following equipment is anticipated to be used on this project:

- Rubber tire loader
- Rubber tire backhoe
- Track excavator
- Roller compactor or Grid roller
- Rubber tire dump truck
- Track dozer (CAT) for possible use at borrow sites or to pull the grid roller.

It is anticipated that more than one dump truck, excavator and backhoe may be used. It is expected that up to six dump trucks, four excavators, and three backhoes could be used. The amount of equipment will depend on the time allowed to complete the work.

2.3 *Alternatives Considered but Eliminated*

The IDT considered an alternative that would realign the road outside of the Wallupa Creek flood plain. This Alternative is technologically infeasible due to the steepness of the canyon walls that contain Wallupa and Wildcat Creeks. Therefore, this alternative will not be further analyzed.

2.4 *Conformance with the Baker Resource Management Plan*

As identified in the Baker Resource Management Plan Record of Decision (July 1989), the Management Direction for Recreation is to "Provide or enhance recreational opportunities for hunting, fishing, swimming, floating, boating, hiking, and sightseeing."

3 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

This section of the EA presents relevant resource components of the existing environment that will be analyzed in each alternative. The format of this section is consistent with resources analyzed in the Baker RMP (USDI 1989a) to which this "fine scale" ecosystem-based management planning effort is tiered.

3.1 *Critical Elements of the Human Environment*

The following Council on Environmental Quality (CEQ) elements of the human environment are subject to requirements found in statute, regulation, or executive order and must be considered in all EAs and EISs. In Table 2, BLM shows which critical elements are present, which ones are not, and which ones will be fully analyzed in the EA.

Table 2 - Critical elements analysis summary

Element	Relevant Authority	BLM Manual	Do any of the alternatives affect this Element?
Air Quality	The Clean Air Act as amended (42 USC 7401 et seq.)	MS 7300	Not affected
Areas of Critical Environmental Concern	Federal Land Policy and Management Act of 1976 (43 USC 1701 et seq.)	MS 1617	No – ACECs are located within the Project Area
Cultural Resources	National Historic Preservation Act as amended (16 USC 470)	MS 8100	Yes - Impacts to known cultural properties are discussed in the EA. SHPO and CTUIR consulted
Farm Lands (prime or unique)	Farmland Protection Policy Act (PL 97-98; 7 U.S.C. 4201 et seq.)		No prime or unique farmlands are present on public lands within the GU.
Floodplains	E.O. 11988, as amended, Floodplain Management, 5/24/77	MS 7260	Yes – Impacts to floodplains are covered in the EA under wetland/riparian habitat
Indian Trust Resources	Treaty of 1855	BLM handbook H-8160-1	Concerns received and responded to in the EA. Ongoing data collection under the "First Foods Project" to gather information on potential habitat for culturally important plants.
Native American Religious Concerns	American Indian Religious Freedom Act of 1978 (42 USC 1996)	MS 8100	No sacred sites have been identified or are known to be located within the project area
Threatened or Endangered Species	Endangered Species Act of 1973 as amended (16 USC 1531)	MS 6840	Yes – Impacts are covered in the EA under Fisheries

Element	Relevant Authority	BLM Manual	Do any of the alternatives affect this Element?
Wastes, Hazardous or Solid	Resource Conservation and Recovery Act of 1976 (42 USC 6901 et seq.) Comprehensive Environmental Response, Compensation, and Liability Act of 1980 as amended (42 USC 9615)	MS 9180 MS 9183	No known hazardous waste exist within the project area
Water Quality Drinking/Ground	Safe Drinking Water Act as amended (42 USC 300f et seq.) Clean Water Act of 1977 (33 USC 1251 et seq.)	MS 7240 MS 9184	Yes – Water Quality is discussed in the EA under Hydrology, Water Quality and Soils.
Wetlands/Riparian Zones	E.O. 11990, Protection of Wetlands, of May 24, 1977	MS 6740	Yes –Riparian area impacts are discussed in the EA.
Wild and Scenic Rivers	Wild and Scenic Rivers Act as amended (16 USC 1271)	MS 8014	No –Wild and Scenic Rivers are not present within the Project Area.
Wilderness and Wilderness Study Areas , Wilderness Characteristics Inventories	Federal Land Policy and Management Act of 1976 (43 USC 1701 et seq.) Wilderness Act of 1964 (16 USC 1131 et seq.)	MS 8500	No Wilderness or wilderness study areas exist within the project Area. In addition, no areas containing wilderness characteristics were identified during the Wilderness Characteristic Inventory.
Environmental Justice	E.O. 12898 of February 11, 1994		Minority populations and low income populations are not present in the project area.
Actions to Expedite Energy Related Projects	E.O. 13212 of May 18, 2001		Proposed Alternatives are not energy related nor will it affect production, transmission, or conservation of energy.

The CEQ coordinates federal environmental efforts and works closely with agencies and other White House offices in the development of environmental policies and initiatives. Congress established CEQ within the Executive Office of the President as part of the National Environmental Policy Act of 1969 (NEPA). Additional responsibilities were provided by the Environmental Quality Improvement Act of 1970.

3.2 *Subjects Excluded from the Analysis*

Subject elements that will not be fully analyzed in this EA include: air quality, areas of critical environmental concern (ACEC), wilderness, wilderness study areas, wilderness characteristics, special status plants, forest and woodlands, wild and scenic rivers, caves & karsts, visual resources, off highway vehicles (OHV), wastes, hazardous or solid, environmental justice, or actions to expedite energy related projects. Also, there are no known paleontological localities in the project areas; therefore paleontology will not be fully analyzed. These subject elements are not an issue to the analysis because the subject element is not present within the analysis areas.

3.3 *Climate Change*

3.3.1 Affected Environment

The project area is located within the U.S. Environmental Protection Agency (EPA), Eastern Oregon Air Quality Control Region 10. The air quality in the area is generally good and typical of large rural areas within the Blue Mountains. Wind measurements for the site have not been recorded; however this location is in a canyon, so wind would be expected to be low.

The project area's main source of air contaminants is from windblown dust from occasional traffic along dirt roads in the area. During the spring and summer months, dust storms, field burns, and wildfires may negatively affect air quality.

According to the EPA's website, "Important scientific questions remain about how much warming will occur, how fast it will occur, and how the warming will affect the rest of the climate system including precipitation patterns and storms. Answering these questions will require advances in scientific knowledge in a number of areas. These include: 1) Improving understanding of natural climatic variations, changes in the sun's energy, land-use changes, the warming or cooling effects of pollutant aerosols, and the impacts of changing humidity and cloud cover, 2) Determining the relative contribution to climate change of human activities and natural causes, 3) Projecting future greenhouse emissions and how the climate system will respond within a narrow range, and 4) Improving understanding of the potential for rapid or abrupt climate change.

In a May 14, 2008 memorandum to the U.S. Fish and Wildlife Service, the U.S. Geological Survey summarized the latest science on greenhouse gases and concluded that it is currently beyond the scope of existing science to identify a specific source of greenhouse gas emissions or

sequestration and designate it as the cause of specific climate impacts at a specific location. This makes the spatial scale for analysis as global, not local, regional or continental.

Climate change does not have a clear cause and effect relationship with the proposed action or the alternatives, because it is not currently possible to identify a specific source of greenhouse gas emissions or sequestration and designate it as the cause of specific climate changes. Also, the difference between the proposed alternative and the no action alternative with regard to carbon analysis and greenhouse gas emissions is too small to be discernable because the action alternative and no action are so similar with respect to the features that would affect carbon storage and emissions.

3.3.2 Alternative A – No Action

Under the No Action Alternative there would be an increase in fossil fuel use caused by vehicle traffic having to use alternative routes that are approximately 10-15 miles longer commute time to the larger community of Wallowa. Longer distances will result in increased fuel usage however the amount of use Wallupa creek receives is low and these emissions are so minuscule that the incremental contribution to national and global emissions does not merit reporting under the EPA rule on mandatory reporting of greenhouse gases, which has a reporting threshold of 25,000 metric tons of CO_2 equivalent annually. Therefore, the No Action Alternative would not have an effect on climate change.

3.3.3 Alternative B – Proposed Action

The repair of the Wallupa/Wildcat Creek Road would require, at the most, 200 gallons of diesel fuel to complete. According to US Energy Information Administration approximately 20 pounds of $C0_2$ are produced per gallon of diesel fuel which equates to 4044 pounds or 1.8 metric tons of $C0_2$. These emissions are so minuscule that the incremental contribution to national and global emissions does not merit reporting under the EPA rule on mandatory reporting of greenhouse gases, which has a reporting threshold of 25,000 metric tons of CO_2 equivalent annually. Therefore, Alternative B would not have an effect on climate change.

3.4 *Cultural and Historical Resources*

3.4.1 Introduction

The purpose of this archaeological analysis is to accomplish the responsibilities under Section 106 of the National Historic Preservation Act (NHPA) in coordination with the National Environmental Protection Act (NEPA) and illustrate how cultural resources relate to the proposed Wallupa Creek Road Repair on BLM properties for input to the project's analysis file. This document specifically discusses the archaeological resource as per the NEPA process by analyizing and assessing the immediate and long-range effects on cultural resource values.

Heritage Resources (also known as cultural resources) include buildings, structures, sites, areas, and objects of scientific, historic or social value. They are an irreplaceable, nonrenewable resource documenting the legacy of past human use. Without adequate protections or

mitigations, these resources, when present, are vulnerable to damage and loss through a variety of affects that may result from the proposed action.

The Bureau of Land Management (BLM) is proposing to reconstruct the Wallupa Creek Road located in Baker Resource Area within the Vale District. Wallupa Creek lies within Wallowa County, northeast of La Grande, northwest of Enterprise and south of Troy, Oregon. The purpose of this "undertaking" is to reconstruct Wallupa Creek Road after the 2014 spring flood event that eroded approximately 1,000 feet of intermittent damage throughout a three mile segment of Wallupa Creek.

Cheryl Bradford, Archaeologist for the Malheur and Jordan Resource Areas Vale District, determined this proposed action to be an "undertaking" pursuant to the definition provided at Section 301 (7) of the National Historic Preservation Act. As such, a level III cultural resource survey and report titled "*A Cultural Resources Inventory of Wallupa Creek for Road Repair Wallowa County, Oregon*" will be submitted to the Oregon State Historic Preservation Office according to 36 CFR 800 Regulations with a **"No Effect Determination"** as a result of no cultural resources being located during field survey.

Summary of the Wallupa/Wildcat Road Repair Cultural Resources Inventory

The Class III Cultural Resources Inventory of the Wallupa Road Reconstruction (WRR), "Area of Potential Effect" (APE) resulted in "No Cultural Properties located". A 100% survey was completed with 15 meter survey transects, decreasing to 10 meter transects in all open flat areas. Areas that exceeded 15% slopes were excluded from survey. This survey was completed by Cheryl A. Bradford on June 16, 2014, and again on June 30, 2014.

Subsurface visibility was excellent as a result of the lateral migration of the stream channel exposing up to eight feet of cutbank profiles. Surface visibility was good, spring growth was occurring allowing 40% soil visibility in the flat locations.

Legal Direction

Managing cultural resources takes coordination within many arenas, frameworks, and contexts. The cornerstone of cultural resource management lies in a complex of government laws, policies, and implementing regulations. Links to laws, executive orders, and regulations pertaining to cultural resources can be found on the National Park Service's internet site at www.nps.gov/history/**laws**.htm.

The BLM is required to consider the effects of agency actions on cultural resources that are determined eligible for the National Register of Historic Places (NRHP) or on heritage resources not yet evaluated for eligibility. The Secretary of Interior's Standards and Guidelines for Archaeology and Historic Preservation are an important element of management of cultural resources on public lands. Several other laws address various aspects of heritage resource management on BLM land these include but are not limited to: the National Environmental Policy Act of 1969 (NEPA), the Antiquities Act of 1906, the Historic Sites Act of 1935, and the

Archaeological Resource Protection Act of 1979, as amended in 1988 (ARPA). ARPA and two other regulatory acts describe the role of Tribes in the federal decision-making process, including heritage/cultural resource management.

Consultation with Others

Many of the previously described laws, regulations, and directives instruct the BLM to consult with American Indian tribes, the State, and other interested parties over cultural resource management issues. Coordination, is addressed in 36 CFR 800.8(a), "*Coordination with the National Environmental Policy Act,"*

The National Environmental Policy Act, and other authorities, requires federal agencies to consider the impact of their actions on cultural uses of the natural environment such as those practiced by present-day communities of American Indians. Resources of contemporary tribal interest may include "traditional cultural properties" (NPS 1990), these areas are considered important for the practice of Indian religion, Indian sacred sites on federal lands that support cultural uses of the natural environment (i.e., subsistence use of plants or animals).

ARPA requires Tribal notification and consultation regarding permitted removal of artifacts from federal lands. The Native American Graves Protection and Repatriation Act of 1990 (NAGPRA) recognizes Tribal control of human remains and certain cultural objects on public lands and requires consultation prior to their removal. The American Indian Religious Freedom Act of 1978 (AIRFA) requires federal agencies to consider the impact of their actions on traditional Tribal cultural sites. The National Historic Preservation Act (NHPA) also specifically calls for Tribal participation in the NHPA Section 106 consultation process.

3.4.2 Affected Environment

Wallupa Creek lies in a complex of mountains, canyons, and valleys known as the Wallowa Mountains. The depth and makeup of soil, elevation differences, diversity of slope aspects, and variations in patterns of precipitation cause a variety of habitats ranging from semi-arid bunchgrass prairies through pine and fir forests.

A geomorphic perspective is important in working with rivers such as Wallupa Creek that is currently adjusting to climatic events and road improvements of the past. Cut and fill terraces that reflect these erosional and depositional cycles are discussed in Leopold et al, 1964 and channel evolutionary models for incised channels are shown by Schumm, et al, (1984) and Simon (1992).

The stream classification for this specific reach of Wallupa Creek is a B3 based on the highly recognized Rosgen Stream Classification System. The B3 assessment is derived from environmental factors such as; Valley Type, slope/gradient and stream bed load size. The "B" stream type is categorized as; narrow, moderately entrenched, moderate gradient, riffle dominated channel, rapids predominate with infrequently spaced scour pools, moderate relief, colluvial deposition and/or structure. (Rosgen 1994, 1996)

In summary, the existing position of Wallupa Creek in this V-type channel with a B3 Stream Classification has dynamically changed often in relation to climatic events and confinement from the historic road improvement. The changes in the river have affected both the lateral and vertical position of the stream channel, effectively scouring any evidence of human occupation.

Prehistory

The proposed action lies on the boundary of two Native American cultural regions; the Columbia Plateau to the north, and the Great Basin to the south, wide sections of these areas were used by both cultures. A general conclusion can be made that the area was predominantly utilized by the Cayuse, Umatilla, Nez Perce, Northern Paiute and Shoshone cultural groups. The Wallupa Creek Road Repair is located in a high elevation zone which the Native American use is assumed to have been occasional to seasonal. Temporary camps, established for utilization of upland plant, fish, game, and lithic resources were limited to spring, summer and early fall use.

Suphan (1974) has provided detail with respect to the traditional areas frequented by the peoples who are now considered within the Confederated Tribes of Umatilla Indian Reservation (CTUIR).

"During the summer treks, the Umatilla crossed over the Blue Mountains into the Grande Ronde valley to numerous fishing, root-gathering, hunting and berrying areas. ...In none of these subsistence areas were the Umatilla the sole exploiters, Walla Walla, Cayuse and Nez Perce Indians visiting these same spots. ..." Suphan, Robert J., *The Socio-Political Organization and Land Use Patterns of the Umatilla, Walla Walla and Cayuse Indians.* MA dissertation. Columbia University, pp. 128-134.

Wallowa County was the longtime home of the Wallowa Band of the Nez Perce Tribe. The Nez Perce Tribe covered a large area of land, having territory in northeastern Oregon, southeastern Washington, and all of north central Idaho (Josephy, 1965). The introduction of the horse allowed this territory to expand (Tucker, p. 12). The Nez Perce Tribe was the largest ethnic group in the Columbia Plateau. They were well known as a peaceful and powerful tribe (Hartle, 2002).

Since the Nez Perce Tribe was so large, it could generally be broken into two groups: the Upper Nez Perce, and the Lower Nez Perce. The Wallowa Band was part of the Lower Nez Perce who occupied the lower Salmon and Clearwater areas, as well as large portions of southeast Washington and northeast Oregon (Tucker, p. 50).

The Wallowa division of the Nez Perce had no direct contact with Lewis and Clark (Tucker, p. 17). The Wallowa Band had little contact with white man during fur trapper era. (Tucker, p. 50). Their first experience with the white man was when Captain B.L.E. Bonneville and his party of three companions stumbled across a Lower Nez Perce camp upon entering the Imnaha Canyon on February 16, 1834 (Tucker, p.55).

This information was collected from the Washington Irving publications, which provide an account of the Bonneville journey. The recorded hardships discouraged others from entering the

Wallowa and Salmon areas for years.

New ideas associated with the white man‘s culture were presented to the Tribe. In 1842 a head chief was elected for the Nez Perce. This was a new form of hierarchy for the Tribe (Tucker, p. 70). The first head chief was Ellis, only in crisis, emergency, or war did they unite under a single leader; the rest of the time the individual band chiefs led their own bands. This led to misunderstanding by the white man (Tucker, p. 72). The United States didn‘t recognize that each band generally made independent decisions. Therefore when a chief signed a treaty he was only signing for his band, not the entire Nez Perce Tribe.

History:

There is always debate about what the land looked like before the white man, coupled with this debate is the question; what should the land look like today. 1843 marked the beginning of the westward movement and a drastic change in multiple-use in the Wallowa Valley.

William H. Odell, United States deputy surveyor, provides one of the first accounts of the Wallowa Valley, in the summer of 1866. Odell provided other descriptions of the landscape from the valley: ―Narrow streams of clear, cold water put down from the high snow mountains just to the south. Timber is to the south and west and along the banks of the stream. Here I found many Indians camped on the banks of the streams, taking great quantities of fish, while their large herds of horses quietly grazed upon luxuriant grass.
(Bartlett, 1984, p. 14).

The coming of the settlers proved very prosperous for the Lower Nez Perce, including the Wallowa Band. The Nez Perce in Wallowa County had a very viable trade system with the early settlers. With their large herds of livestock the Nez Perce were able to provide replacement livestock for the early settlers. The Wallowa Band made large sums of money through this trade (McCormack, 2005).

Those first winters the settlers spent in the Wallowa Valley also proved very difficult (McCormack, 2005). The Nez Perce showed the settlers where to take the animals in the winter so they would survive – the canyons: specifically the Imnaha area. According to McCormack, at first the settlers paid the Nez Perce for grazing (McCormack, 2005). As more and more whites began to move west, treaties were established between the Native Americans and the United States Government.

In 1863, Chief Joseph marked part of the western boundary of the Tribe‘s land by erecting a row of poles across the white man‘s route into the county when the settlers began to enter the Valley. The poles were placed west and north of the summit of Minam Hill (Bartlett, 1967). The Wallowa Band maintained these poles until 1877. J.H. Horner reports they called them ―Old Joseph‘s Dead Line‖ (Bartlett, 1984, p. 13).

With the signing of the 1863 treaty, Nez Perce land was sold to the United States Government. This allowed Wallowa County to be opened to settlement in 1867 (Bartlett, 1967).

The executive order was writtenup and signed by President Grant on June 16, 1873 (Josephy, 1965, p. 457), withdrawing Wallowa County from settlement (Bartlett, 1979, p. 6). However, the drafters wrote it up backwards, giving the upper valley to the settlers and the lower to the Nez Perce (Josephy, 1965, p. 457). This caused a lot of conflict between the Tribe and the settlers, even though no confrontations occurred, because the reserved lands didn't include the Nez Perce traditional summer range (Josephy, 1965). On June 10, 1875, President Grant rescinded the executive order of 1873 upon recommendation from the Department of Interior: the reservation was eliminated (Josephy, 1965, p. 466) effectively reopening the Wallowa Valley to settlement (Bartlett, 1984, p. 52).

In 1876 there was serious contention between Native Americans and the white settlers over feed in the Imnaha Canyon. The Nez Perce would run cattle off the range to save it for their horses. The settlers demanded equalshare of the range. The army was brought in to help resolve the issue (Bartlett, 1984, pg.58). The issue was compounded with the large influx of settlers into the Wallowa Valley in 1876. Very few had come in for several years because of the uncertainty concerning the Nez Perce reservation (Bartlett, 1984, p. 60).

The conflict that changed things in the Wallowa Valley forever was between a farmer and some Nez Perce hunters. A.B. Findley and his neighbor Wells McNall tracked some of Findley's missing horses to a Nez Perce camp. An argument ensued and a Nez Perce man was shot and killed by Findley (Bartlett, 1984, p. 60-61). Dissension continued to escalate until peace could no longer be maintained. In 1877 the U.S. government demanded all Nez Perce people move to the reservation in Lapwai, Idaho. This enraged the warriors of the tribe. Some conducted raids on settlers, specifically in the Salmon River area. The Nez Perce War of 1877 ensued (*Indian,* 2005). The War resulted in the removal of the Tribe from Wallowa County.

Following the Nez Perce War of 1877, settlement continued and the population grew throughout the Valley. The Wallowa Valley was officially part of Union County until 1887. Wallowa County was officially created on February 11, 1887 (Bartlett, 1979, p. 7).

Recent History and Resource Stresses

A Class III cultural resource inventory was completed on Wallupa Creek to assess proposed road reconstruction impacts on archaeological resources prior to any ground disturbing activities. Archaeological resources are places where human activities have deposited physical remains or measurably altered the earth in some manner. Archaeological sites may be prehistoric or historic and are considered valuable if they have yielded, or may be likely to yield, scientific or scholarly information important in prehistory or history. Complete site avoidance is the preferred form of treatment for archaeological resources that have the ability, or may have the ability, to yield scientific data.

Cultural resource identification in the WRR APE focused on three primary types of resources: prehistoric archaeological sites, historic archaeological sites, and places that support contemporary tribal interest may include "traditional cultural properties". No previous surveys have been identified in this drainage and **no archaeological resources were located in the WRR APE during the cultural resource survey.**

3.4.2.1 Desired Future Condition

The DFC for the analysis area is to maintain or enhance soil productivity and thus the valuable characteristics of the cultural deposits that lie within. Management should be designed to maintain or improve heritage preservation and associated beneficial uses. More details relating to goals, standards, and guidelines are available in the Draft Baker Resource Area Land and Resource Management Plan.

3.4.2.2 Environmental Consequences

Effects considered under NEPA include cultural and prehistoric and historic. (40 CFR 1508.8) The term "cultural resources" covers a wider range of resources than "historic properties," such as sacred sites, archaeological sites not eligible for the National Register of Historic Places, and archaeological collections.

3.4.3 Alternative A (No Action Alternative)

Alternative A, No road repair would occur.

With the No Action Alternative the existing condition would continue to degrade the existing road prisum causing a long term closure of the Wallupa Creek Road. As a result of the Level III cultural resource survey; no heritage sites were located in the APE thus; no negitive effects from the No Action Alternative are expected.

3.4.4 Alternative B (Proposed Action, Reconstruction Washout Sections of Road)

Alternative B, the BLM would authorize the activites described in the Proposed Action. As a result of the Level III cultural resource survey; no surface heritage sites were located in the APE thus; no negitive effects from the proposed activity are expected.

3.5 *FISHERIES AND FISH HABITAT*

3.5.1 Affected Environment

The Lower Grande Ronde River Subbasin (17060106) begins at the Grande Ronde River's confluence with the Wallowa River at Rondowa, Oregon (T 3 N, R 40 E, Section 23) and ends at its confluence with the Snake River (T 7 N, R 46 E, Section 13). The Lower Grande Ronde subbasin is an area of approximately 971,000 acres in northeast Oregon and southeast Washington, and is part of the much larger Grande Ronde River Basin (170601). The area is best described as a multi-use area that includes hunting, fishing, livestock grazing, timber management, resource conservation, and wildland preservation.

Wallupa Creek is a perennial tributary to Wildcat Creek, which is a perennial tributary to the Lower Grande Ronde River. Wallupa and Wildcat Creeks are subwatersheds located in the Mud Creek-Grande Ronde River Watershed (1706010602). The Mud Creek-Grande Ronde River Watershed is an area of approximately 154,000 acres in northeast Oregon. Approximately 37%

of the watershed is National Forest System (NFS) lands and approximately 3% is Bureau of Land Management (BLM) lands. There are approximately 2 miles of BLM land along Wallupa Creek and approximately 1 mile of BLM land along Wildcat Creek.

The confluence of Wallupa Creek with Wildcat Creek is located approximately 3.5 miles upstream from Wildcat Creek's confluence with the Grande Ronde River (T 4 N, R 43 E, Section 7). The Wildcat and Wallupa Creek drainages flow from south to north and parallel to the west side of Powwatka Ridge. There is an approximate 1,200 foot elevation difference from the bottom of the Wildcat/Wallupa Road to the top of Powwatka Ridge.

Listed Species and Critical Habitat

Threatened and endangered fish species include all fish species designated by U.S. Fish and Wildlife Service (USFWS) and NOAA Fisheries as threatened, endangered, or as candidates for listing under the Endangered Species Act (ESA). There are two fish species present that are listed as "threatened" under the ESA within the Wildcat and Wallupa Creek subwatersheds (Table 1):

- Snake River Basin (SRB) steelhead Distinct Population Segment (DPS) (*Oncorhynchus mykiss*)
- SRB spring/summer Chinook salmon Evolutionarily Significant Unit (ESU) (*Oncorhynchus tshawytscha*)

SRB summer steelhead and Chinook salmon are anadromous fish, meaning adults migrate from the ocean to spawn in freshwater lakes and streams. Spring/summer Chinook salmon enter the Columbia River from the Pacific Ocean between February and May, fall Chinook salmon leave the ocean between August and November, and summer steelhead leave the ocean between June and September. Offspring hatch and rear in freshwater prior to migrating back to the ocean, where they forage until maturity.

There is no documented occupied presence of Columbia River (CR) bull trout DPS (*Salvelinus confluentus*) or bull trout critical habitat within the Wildcat and Wallupa Creek subwatersheds. The nearest documented occupied bull trout presence and bull trout critical habitat is about 3 miles downstream of the project area within the main stem Grande Ronde River.

Snake River (SR) fall Chinook salmon distribution is limited to the main stem Grande Ronde River; their documented occupied upstream distribution ends just upstream of its confluence with Mud Creek, which is about 4 river miles downstream of the project area.

There would be no effect to CR bull trout or SR fall Chinook salmon from implementation of the proposed action. Additionally, potential effects to aquatic habitat from the proposed activities would not extend into stream reaches occupied by SR fall Chinook salmon and CR bull trout

downstream of the analysis area. A separate Biological Assessment (BA) will be prepared by the project proponent to meet the BLM's obligation under Section 7 of the ESA.

Table 3 ESA listed fish species that occur in the Wildcat and Wallupa subwatersheds.

Species	Scientific Name	Federal and Oregon Status	Project Area Occurrence
Chinook Salmon – Snake River Basin Spring Run ESU and DCH	*Oncorhynchus tshawytscha*	Threatened	Spawning and rearing
Steelhead – Snake River Basin DPS and DCH	*Oncorhynchus mykiss*	Threatened	Spawning and rearing

Chinook Salmon – Snake River Spring Run ESU

In 1992, NOAA Fisheries listed SRB spring/summer Chinook salmon as threatened under the ESA. This status was reaffirmed effective June 28, 2005 (70 FR 37160). Final critical habitat for SRB spring/summer Chinook salmon was published in 1993 (NOAA 1993) and was updated effective October 25, 1999 (64 FR 57399).

The designated habitat for the SRB spring/summer and fall Chinook salmon ESUs consists of river reaches of the Columbia, Snake, and Salmon Rivers, and all tributaries of the Snake and Salmon rivers presently or historically accessible to SRB spring/summer and fall Chinook salmon (except reaches above impassable natural falls and Dworshak and Hells Canyon Dams) (NOAA 1993). Critical habitat includes the water, waterway bottom, and the adjacent riparian zone (NOAA 1993). In the final ruling, it is acknowledged that many river reaches (including Wildcat and Wallupa Creeks) within the designated critical habitat are not currently inhabited by SRB spring/summer or fall Chinook salmon, and some areas are either presently inaccessible or were historically impassable to salmon. These areas are still included in the designation; the final ruling states, "In light of the continued decline in adult returns of SRB spring/summer and fall Chinook salmon, restricting critical habitat to a portion of this species' historic range is not considered prudent," (NOAA 1993).

Life History

Adult SRB spring/summer Chinook salmon leave the Pacific Ocean and enter the Columbia River from February through May. They proceed up the Columbia and Snake Rivers until reaching the Grande Ronde River in June and July. They spawn from early August through September. Egg/alevin incubation and emergence from gravels occurs from mid-August through February. After emerging, juvenile fish typically remain in fresh water for one year before migrating to the ocean from March through June. Adults typically return to the spawning grounds after three to six years in the ocean. Chinook salmon also have a precocious life history type (males known as "jacks") that mature and spawn after only several months in the ocean.

Chinook salmon habitat requirements include: cool, clean, and well-oxygenated waters; places to rest and hide; abundant food sources for juveniles; and rearing and migration corridors with adequate passage conditions.

Condition and Trend

Historically, the Lower Grande Ronde Subbasin was an important producer of SRB spring/summer Chinook salmon. It is estimated that 20,000 spring / summer Chinook salmon entered the Lower Grande Ronde Subbasin annually prior to the Snake River dams (Van Cleave and Ting 1960). Actual escapement in 1957 was calculated to be 12,200 spring Chinook salmon (ODFW 1990). Smith (1975) estimated that 8,400 fish escaped to the Subbasin in the early 1970s. Since 1975, spring Chinook salmon from the Grande River must pass four Columbia River dams and four Snake River dams. Estimates of escapement from 1977 through 1987 range from 324 to 1,715 fish annually. Escapement to the Wenaha and Minam Rivers, both mostly within wilderness areas, has declined at approximately the same rate as for streams in more managed watersheds (ODFW 1990). This may indicate that declining fish escapement is not due to management activities on federal lands.

The Grande Ronde Subbasin Plan (NWPCC 2004) provides information and analysis on only six unique spring Chinook populations, including Wenaha River spring Chinook, which are genetically and geographically distinct from all other spring Chinook of the Grande Ronde; but excluding Wildcat and Wallupa Creeks. An EDT analysis was completed to estimate the decrease in number of adult returns from historic levels due to habitat changes, as well as evaluate and prioritize habitat restoration potential. The EDT analysis also showed that efforts to restore the Lower Grande Ronde area would provide the greatest benefit to spring Chinook abundance and productivity. The individual habitat attributes that contribute most to restoration benefits are habitat diversity and quantity of key habitat. Habitat diversity, in turn, is most influenced by hydromodification, riparian function, and wood; and key habitat quantity is most influenced by presence of primary pools.

As of 2006, there were a reported 45.4 stream miles in use by SRB spring/summer Chinook for spawning and rearing in the Lower Grande Ronde Subbasin. Current distribution of SRB

spring/summer Chinook spawning and rearing habitat within Wildcat and Wallupa Creeks is shown in Table 3.

The extent of occupied Snake River Spring Run ESU Chinook salmon distribution within the Wildcat and Wallupa Creek drainages begins at the mouth of Wildcat Creek upstream to its confluence with Wallupa Creek (approximately 3.5 miles). There is no currently known occupied distribution of SR spring/summer and fall Chinook salmon in Wildcat or Wallupa Creeks. However, the entire Wildcat and Wallupa Creek drainages are presumed to support DCH for both spring/summer and fall Chinook salmon.

Table 4 SRB spring/summer Chinook salmon spawning and rearing distribution within Wildcat and Wallupa Creeks.

Stream Name	Total Miles
Wildcat Creek	3.5
Wallupa Creek	0

Steelhead – Snake River Basin DPS

SRB steelhead were listed by the National Marine Fisheries Service (NMFS) as threatened under the federal ESA on March 25, 1999 (64 FR 15417). Critical habitat for SRB steelhead was designated on September 2, 2005 (70 FR 52630). Critical habitat is present in the Wildcat and Wallupa Creek subwatersheds and overlaps steelhead distribution within these drainages.

Life History

Adult SRB steelhead migrate from the Pacific Ocean and swim up the Columbia River from June through September. They proceed up the Columbia and Snake Rivers until reaching the Lower Grande Ronde Subbasin between September and May. Spawning takes place between March and April in lower elevation tributaries and between March and May at higher elevations. Egg/alevin incubation and emergence from gravel occurs from March through mid-July, depending on the time of spawning and water temperatures. After emerging, juvenile steelhead remain in fresh water for one to four years (typically two years) before migrating to the ocean. Juveniles migrate to the ocean from early April through September. Adults return to the spawning grounds after one to three years (typically one year) in the ocean. Unlike other Pacific salmon, anadromous steelhead do not die after spawning, and they may make one or more repeat spawning migrations. Though less than one percent of the adult steelhead return for a second spawning (ODFW 1997).

Steelhead habitat requirements are like those described for spring/summer Chinook salmon: cool, clean, and well-oxygenated waters; places to rest and hide; abundant food sources for juveniles; and rearing and migration corridors with adequate passage conditions.

Condition and Trend

Historical run sizes of SRB steelhead in the Lower Grande Ronde Subbasin are unknown, but population sizes are believed to have decreased. Overfishing (late 1800s and early 1900s) and the construction of hydropower dams on the main stem Columbia and Snake River (1930s to 1970s) are major causes of decreased runs (Nez Perce Tribe of Idaho et al. 1990). It was estimated that 15,900 steelhead entered the Lower Grande Ronde Subbasin in 1963 (Carmichael and Boyce 1987).

The Grande Ronde Subbasin Plan (NWPCC 2004) provides information and analysis on unique steelhead populations, including the Lower Grande Ronde population (including the main stem Grande Ronde River and all tributaries upstream to the Wallowa River confluence). An Ecosystem Diagnosis and Treatment (EDT) analysis was completed to estimate the decrease in number of adult returns due to habitat changes, as well as evaluate and prioritize habitat restoration potential. Lower Grande Ronde steelhead returns were estimated to have decreased 39% due to habitat changes from historic levels.

The EDT analysis showed that the Lower Grande Ronde River has the highest potential for gains in steelhead abundance and life history diversity, making it a high priority location for restoration. The habitat attributes with the biggest impacts on steelhead survival included large woody debris, stream temperatures, and sedimentation.

Current distribution of steelhead spawning and rearing habitat within Wildcat and Wallupa Creeks is shown in Table 2. Steelhead are the most widespread listed fish species in the Lower Grande Ronde Subbasin. As of 2006, there were 486 miles of reported steelhead spawning and rearing areas. Steelhead spawning and rearing areas are defined as areas where eggs are deposited and fertilized, where gravel emergence occurs, and where at least some juvenile development occurs.

The extent of Snake River Basin DPS steelhead distribution and DCH within the Wildcat and Wallupa Creek drainages begins at the mouth of Wildcat Cr and includes the entire mainstem of Wildcat Creek and Wallupa Creek upstream to its confluence with Bishop Creek, a headwater tributary to Wallupa Creek. The extent of Snake River Basin DPS steelhead distribution and DCH within Bishop Creek begins at its confluence with Wallupa Creek and ends approximately 2 miles upstream.

Table 5 SRB steelhead spawning and rearing distribution within Wildcat and Wallupa Creeks.

Stream Name	Total Miles
Wildcat Creek	12.8
Wallupa Creek	6.8

3.5.2 *Source: StreamNet 2006*Alternative A – No Action

Alternative A is the no action alternative and serves as a baseline for evaluating other alternatives during the effects analysis for proposed actions. The Wallupa Road Reconstruction Project would not be implemented under Alternative A. There would be no adverse effects to threatened or endangered species under the No Action Alternative. Without repair of the Wallupa Creek Road, disturbance in the project area would be reduced and portions of the existing road would likely revert to native riparian forest habitat, a benefit to both terrestrial and aquatic species. Without mechanical stabilization of eroded streambanks, there remains the potential for additional streambank erosion and road washouts over time that could result in additional sediment delivery into Wallupa and Wildcat Creeks. However, the rate of potential sedimentation along the road would continue at current levels and as a result of precipitation and snowmelt events. Under the no action alternative, human disturbance within the project area would be reduced due to the lack of road repairs and vehicle access. Existing land and resource conditions would be otherwise unaffected, except through natural processes.

3.5.3 Alternative B – Proposed Action

Direct Effects

The risks associated with direct effects are directly related to the proximity of project activities to fish-bearing streams, combined with the magnitude and duration of the Federal Action. Direct effects may occur through physical disturbance of eggs/alevins developing within redds and physical harassment to spawning adults or juveniles. Effects to spawning fish and eggs/alevins developing within redds are dependent upon timing of project construction activities in relation to spawning and incubation.

Indirect Effects

The potential indirect effects that the Proposed Action may have on fish and their habitats are discussed below.

This section addresses possible impacts to listed species from the proposed road reconstruction project. Activities involved in the proposed project include repairing road damage at 19 locations along Wallupa Road, conducting fish salvage activities, utilizing numerous locations for staging and materials sources, and site restoration activities.

Impacts to Baseline Conditions

Water Quality

Earth-disturbing activities can increase delivery of sediment to waterways and increase turbidity in the water column, and sediment introduced into waterways can degrade habitat and reduce primary productivity. Turbidity from increased fine sediment may disrupt salmonid feeding and territorial behavior, and may displace fish from preferred feeding and resting areas. Erosion control measures will be implemented during construction to avoid sediment loss from the staging areas, borrow sites, and other disturbed upland areas. Installing the large toe rock and clean rock fill at the historic toe of the road embankment before installing the general fill material will ensure that fine sediment is not directly adjacent to the creek channel.

As block nets are installed and removed and fish salvage is conducted at sites containing standing or flowing water, some residual sediment release associated with substrate disturbance may occur. These sediment plumes are expected to be minimal and will last no more than a few minutes. Site 19 may experience a slightly larger sediment plume as the culvert, sandbags, ecology blocks, and rock that formed the temporary creek crossing to access the slide area are removed, but this is again expected to be localized, short-term, and temporary, and is expected to present minimal disturbance to the creek system. Because water will be at seasonal low levels and many of the sites are expected to be dry at the time of construction, very little sediment is expected to be released from the repair sites. All sediment releases associated with installing and removing the temporary in-water isolation structures are expected to be contained within the action area, up to 100 feet downstream of the repair areas.

The proposed repairs will stabilize the road embankment through the addition of large toe rock, and therefore reduce the chance of future sedimentation that could occur with continued erosion and further road failure at these locations.

Construction in and near water bodies increases the risk that toxic or harmful substances, such as fuel, lubricants, hydraulic fluids, or coolants, may enter the water. These chemicals can be acutely toxic to fish at high levels of exposure and can cause acute and chronic effects to fish species, aquatic invertebrates, and aquatic and riparian vegetation. In-channel work will be required, and the operation of equipment adjacent to and in Wallupa Creek and Wildcat Creek has the potential to release toxic or harmful substances and kill or injure listed fish or disrupt normal behavior. Conservation measures included in this BA will be implemented to minimize the use of toxic substances and prevent or contain any spill that may occur (e.g., using biodegradable lubricants in equipment, working from the existing roadway, and minimizing direct contact with the water). These should minimize the opportunity for contaminants to come into contact with the water and affect ESA-listed fish.

Habitat Access

Fish passage will not be maintained during construction since the block nets will remain in place for the duration of the repair activity at each site. This is expected to have minimal impact on fish populations, as the repairs will be accomplished quickly and the nets are not likely to be in place longer than five to six days (at Site 11 and Site 19). In most cases the nets will be in place for only one to two days. Approximately 1.36 acres of existing channel will be isolated and inaccessible to fish over the course of the repairs.

Habitat Elements

Fine sediment released by fish salvage activities and installation/removal of the isolation structures may temporarily increase embeddedness downstream of the construction area, but this effect is expected to be minimal and of short duration. Normal bedload mobility during high flows in the winter and spring following construction will remove excess fine sediment.
Some large woody debris is currently located in this reach of Wallupa Creek and Wildcat Creek. Any woody debris that conflicts with the work area or is a flow obstruction (e.g., at Sites 12 and 16) may be removed during repair activities. No standing large trees will be removed by the proposed project.

Pool frequency, pool quality, side channel and floodplain habitat, or refugia will not be affected by the proposed project.

Channel Conditions and Dynamics
Floodplain connectivity is currently very low and will not be affected by this project. The existing streambed and bank will be affected in the project areas as the existing channel that developed after the March 2014 high water event will be redirected to its historic configuration and the roadway is repaired. The road embankment will be stabilized by the placement of the large toe rock, thereby reducing the chance of further erosion and road failure at these locations.

Flow/Hydrology
Basin hydrology (peak/base flow) and the drainage network will not be affected by this project.

Watershed Condition
Road density and location and disturbance history will not be affected by this project.

<u>Snake River Basin Steelhead</u>

Direct Harm
Based on conversations with the ODFW Fish Biologist, it is likely that juvenile Snake River Basin steelhead will be present in the action area during the in-water work window of July 1 to

September 15 (ODFW, 2014). Work taking place below the OHWE, including work area isolation barrier installation and removal, fish salvage, and toe rock and fill installation, could disturb, injure, or kill listed fish through turbidity, noise, and contact (or near-contact) with equipment. Direct harm could result from fish salvage activities, including mechanical injury and disease transmission during capture, holding, and release; injuries attributable to electrofishing, such as hemorrhage, spinal fracture, and death; and stress-related phenomena such as impaired reproductive success or lowered resistance to disease.
To minimize direct harm to fish from construction activities, all work below the OHWE will be performed during the preferred in-water work window, and work area isolation barriers will be installed prior to any in-water construction. Fish will be removed through seining and electrofishing, if necessary, after the work area has been isolated.

Habitat Impacts
Site access and staging will temporarily impact a portion of the roadside/riparian area; however, these areas will be restored to pre-existing conditions following construction and no permanent impacts are anticipated from the site access and staging areas. Borrow site locations will be permanently impacted by the removal of rock and fill material used in the repairs. Erosion control measures will be implemented during construction to ensure that sediment release is minimized from disturbed areas, including the staging areas, material stockpiles, borrow areas, and construction areas.

For sites containing standing or flowing water at which work area isolation and salvage are necessary, work area isolation barrier installation and removal will temporarily disturb the streambed and banks at both ends of each isolation area. Minor turbidity plumes associated with the installation and removal of work area isolation barriers (and the temporary culvert at Site 19) may cause some fish to move out of preferred locations downstream of the construction area; however, these effects are expected to be localized, temporary, and of short duration.
In-water work area isolation will temporarily restrict approximately 1.36 acres of the existing Wallupa/Wildcat Creek channel from use by fish during the repair activities. This is expected to have minimal impact on fish populations, as the repairs will be accomplished quickly and the block nets are not likely to be in place longer than five to six days (at Site 19 and Site 11). In most cases the nets will be in place for only one to two days. Only juvenile steelhead will be impacted by the temporary habitat restriction, as adult steelhead will not be present during the in-water work window.

Repair activities will have permanent impacts to the existing Wallupa Creek and Wildcat Creek channels in the action area, as the creeks will be returned to their historic channels and the road repaired to its former condition, reducing the potential for further erosion at the project sites.

Critical Habitat

The proposed action could affect critical habitat for Snake River Basin steelhead. In the short term, a temporary increase in turbidity and disturbance of riparian and in-stream habitat may occur with installation and removal of the work area isolation barriers. Site access and staging areas may cause minor disturbance to riparian vegetation, but no trees will be removed. Implementation of the conservation measures and restoration of disturbed areas following construction are expected to minimize the project's potential temporary adverse effects on aquatic habitat and riparian areas.

Long-term permanent impacts include earthwork associated with repairs at each of the project sites, including installation of large toe rock, rock fill, and general fill material. This work will return the road and stream channel to approximately the same conditions as were present prior to the March 2014 high water event and prevent further erosion at the sites.

Steelhead critical habitat PCEs include sites essential to support one or more life stages of this DPS (sites for spawning, rearing, migration, and foraging). In turn, these sites contain physical or biological features essential to the conservation of this DPS (e.g., spawning gravels, water quality and quantity, side channels, and prey species). Impacts to steelhead PCEs include:

1. ***Freshwater spawning sites with water quality and quantity conditions and substrate supporting spawning, incubation, and larval development.***

   Steelhead spawning habitat exists in the action area. Temporary impacts to the creek substrate will occur from fish salvage and installation/removal of the temporary work area isolation barriers at each site, which may cause a small amount of sediment release. This effect is expected to be minor, localized, and of short duration. Permanent impacts to the existing channel will occur when the flows are returned to the historic channel and the damage to the washed out portions of the road is repaired. This impact will not create conditions significantly different from channel conditions prior to the March 2014 high water event, but will reduce the likelihood of continued erosion and catastrophic road failure at the project locations.

2. ***Freshwater rearing sites with water quantity and floodplain connectivity to form and maintain physical habitat conditions and support juvenile growth and mobility; water quality and forage supporting juvenile development; and natural cover such as shade, submerged and overhanging large wood, log jams and beaver dams, aquatic vegetation, large rocks and boulders, side channels, and undercut banks.***

   Floodplain connectivity, side channel habitat, channel complexity, and pools are all currently limited in the action area and will not be impacted by the proposed repairs. Large woody debris that conflicts with the work area or is a flow obstruction (e.g., at Sites 12 and 16) may be removed during repair activities. No large shade-producing trees

will be removed. Aquatic organism access to the project sites will be restricted during construction, but this will be temporary and of short duration.

3. ***Freshwater migration corridors free of obstruction with water quantity and quality conditions and natural cover such as submerged and overhanging large wood, aquatic vegetation, large rocks and boulders, side channels, and undercut banks supporting juvenile and adult mobility and survival.***

   Unimpaired upstream and downstream fish passage currently exists in the action area and will continue after repair activities are complete; however, passage will be temporarily restricted during the repair since the block nets will remain in place during the activities at each site. This is expected to have minimal impact, as the repairs will be accomplished quickly. Only juvenile steelhead will be affected by the passage restriction, as adult steelhead do not use the action area during the in-water work window, when all repairs below the OHWE will take place.

<u>Snake River Chinook Salmon</u>

Direct Harm
Based on conversations with the ODFW Fish Biologist, Chinook salmon do not use the action area and, therefore, will not be affected by the proposed repairs (ODFW, 2014).

Habitat Impacts
Potential habitat impacts from the proposed improvements are described in Section 7.2 above. As stated, the overall long-term effect of the proposed reconstruction project will be to return Wallupa Road to its historic condition, return the creeks to their historic channels, and reduce the potential for further erosion at the project sites.

Critical Habitat
The proposed action could affect critical habitat for Snake River spring/summer run Chinook salmon and Snake River fall run Chinook salmon. In the short term, a temporary increase in turbidity and disturbance of riparian and in-stream habitat may occur with installation and removal of the work area isolation barriers. Site access and staging areas may cause minor disturbance to riparian vegetation, but no trees will be removed. Implementation of the conservation measures and restoration of disturbed areas following construction are expected to minimize the project's potential temporary adverse effects on aquatic habitat and riparian areas.

Long-term permanent impacts include earthwork associated with repairs at each of the project sites, including installation of large toe rock, rock fill, and general fill material. This work will return the road and stream channel to approximately the same conditions as were present prior to the March 2014 high water event and prevent further erosion at the sites.

Chinook salmon critical habitat PCEs include sites essential to support one or more life stages of this ESU (sites for spawning, rearing, migration, and foraging). In turn, these sites contain physical or biological features essential to the conservation of this ESU (e.g., spawning gravels, water quality and quantity, side channels, and prey species).

Impacts to Chinook salmon PCEs include:

1. ***Spawning and juvenile rearing areas, including the following specific habitat components: (a) spawning gravel; (b) water quality; (c) water quantity; (d) water temperature; (e) cover/ shelter; (f) food; (g) riparian vegetation; and (h) space.***

   Temporary impacts to the creek substrate will occur from fish salvage and installation/removal of the temporary work area isolation barriers at each site, which may cause a small amount of sediment release. This effect is expected to be minor, localized, and of short duration. Permanent impacts to the existing channel will occur when the flows are returned to the historic channel and the damage to the washed out portions of the road are repaired. This will not create conditions significantly different from channel conditions prior to the March 2014 high water event, but will reduce the likelihood of continued erosion and catastrophic road failure at the project locations.

   Water quantity, water temperature, and food resources will not be impacted by the proposed repairs. Large woody debris that conflicts with the work area or is a flow obstruction (e.g., at Sites 12 and 16) may be removed during repair activities. No large shade-producing trees will be removed. Aquatic organism access to the project sites will be restricted during construction, but this will be temporary and of short duration.

2. ***Juvenile migration corridors, including the following specific habitat components: (a) substrate; (b) water quality; (c) water quantity; (d) water temperature; (e) water velocity; (f) cover/shelter; (g) food; (h) riparian vegetation; (i) space; and (j) safe passage conditions.***

   Impacts to juvenile migration corridor habitat components are the same as those addressed for the juvenile spawning and rearing areas, above.

   Unimpaired upstream and downstream fish passage currently exists in the action area and will continue after repair activities are complete; however, passage will be temporarily restricted during the repairs since the block nets will remain in place during the activities at each site. This is expected to have minimal impact, as the repairs will be accomplished quickly.

3. ***Adult migration corridors, including the following specific habitat components: (a) substrate; (b) water quality; (c) water quantity; (d) water temperature; (e) water velocity; (f) cover/ shelter; (g) food; (h) riparian vegetation; (i) space; and (j) safe passage conditions.***

   Impacts to adult migration corridor habitat components are the same as those addressed for the juvenile migration corridors, above.

Columbia River Bull Trout

Direct Harm
Bull trout do not occur in the action area and no impacts to this species are anticipated.

Habitat Impacts
Bull trout do not use the action area and no impacts to this species' habitat are anticipated.

Critical Habitat
Wallupa Creek and Wildcat Creek are not included in the designated bull trout critical habitat. The closest designated critical habitat is in the Grande Ronde River, approximately 3.5 miles downstream of the project area. This area will not be affected by the proposed repairs.

Finding of Effect
Snake River Basin Steelhead and Critical Habitat

ODFW does not conduct surveys on Wallupa Creek or Wildcat Creek or any other tributary to the Grande Ronde River (with the exception of Joseph Creek). As such, no fish density information is available for the juvenile steelhead that might be present during construction. ODFW District Biologist, Jeff Yankee, did not feel that density estimates should be provided due to the lack of any proxy data (ODFW, 2014).

However, after evaluating the potential effects, it has been determined that the proposed actions described for the Wallupa Road Reconstruction project could result in a probability of "take" for Snake River Basin steelhead. This conclusion was reached because steelhead juveniles could be present in the action areas during project construction, work area isolation, and fish salvage activities. As a result, the potential for adversely impacting Snake River Basin steelhead is not discountable. Therefore, the proposed project may affect, and is likely to adversely affect Snake River Basin steelhead.

Critical habitat components for steelhead could be affected by the proposed project. Conservation measures have been incorporated to minimize the short-term and long-term impacts to critical habitat, and the overall effect of the project is anticipated to return conditions in the action areas to pre-washout conditions. However, because stream substrate will be impacted by the repairs, adverse impacts during construction cannot be ruled out. Therefore, the proposed project may affect, and is likely to adversely affect critical habitat for Snake River Basin steelhead.

Snake River Spring/Summer Run Chinook Salmon and Critical Habitat

After evaluating the potential effects, it has been determined that the proposed actions described for the Wallupa Road Reconstruction project will not result in a probability of "take" for Snake River spring/summer run Chinook salmon. This conclusion was reached because Chinook salmon adults and juveniles are not known to be present in the action areas. As a result, there is no potential for adversely impacting Snake River Basin Chinook salmon. Therefore, the proposed project will have no effect on Snake River spring/summer run Chinook salmon.

Critical habitat components for Chinook salmon could be affected by the proposed project. Conservation measures have been incorporated to minimize the short-term and long-term impacts to critical habitat, and the overall effect of the project is anticipated to return conditions in the action areas to pre-washout conditions. However, because stream substrate will be impacted by the repairs, adverse impacts during construction cannot be ruled out. Therefore, the proposed project may affect, and is likely to adversely affect critical habitat for Snake River spring/summer run Chinook salmon.

Columbia River Bull Trout

After evaluating the potential effects, it has been determined that the proposed actions described for the Wallupa Road Reconstruction project will not result in a probability of "take" for Columbia River bull trout. This conclusion was reached because bull trout adults and juveniles are not known to be present in the action areas. As a result, there is no potential for adversely impacting bull trout. Therefore, the proposed project will have no effect on Columbia River bull trout.

Wallupa Creek and Wildcat Creek are not included in the designated bull trout critical habitat. The closest designated critical habitat is in the Grande Ronde River, approximately 3.5 miles downstream of the project area. As a result, it has been determined that the proposed project will have no effect on designated bull trout critical habitat.

3.6 *NOXIOUS AND NON-NATIVE INVASIVE PLANTS*

3.6.1 Affected Environment

Invasive plants and noxious weeds are known to occur in the project area. Currently, the Vale District BLM is under an herbicide injunction which allows chemical treatment only on state, county or federally listed “noxious weeds”. Existing noxious weeds are treated each year along the entire segment of the BLM road section and in the adjacent riparian area and uplands. These plants include diffuse knapweed, dalmation toadflax, houndstongue and St. Johnswort. Biological control agents can be found on the knapweed and toadflax. Invasive plants such as

yellow sweetclover, burdock, common mullein and teasel are also present along the roadway and on the stream banks but are not being treated, though they may be periodically obliterated along the roadside during routine annual maintenance activities such as blading.

3.6.2 Alternative A- No Action

Under the No Action alternative noxious weeds and invasive plants would continue to infest the project area. In the short-term as additional sections of the road erode away, new areas of disturbance would be opened up providing new areas for weeds to establish. Although treatments would continue in the canyon, access would be more difficult and treatments would be more time consuming thus more expensive. Effects would be adverse and moderate.

Since the creek regularly experiences high flow events, there would always be the likelihood of areas being scoured, sending existing weed propagules downstream and exposing new areas for colonization. Over time as the stream channel stabilizes, native vegetation would fill in these gaps and hold soil in place so that annual high flow events would have less of an impact. In the long-term, once the road is obliterated and the stream channel stabilizes, native vegetation would increase and compete with weeds. Furthermore, the absence of the road would eliminate a constant source of weed spread in the canyon. Beneficial effects would be major.

3.6.3 Alternative B- Proposed Action

Under this alternative noxious weeds and invasive plants would continue to infest the project area. In the short-term, as earth is moved to reconstruct the road, new areas would be opened up for colonization by weeds. New weeds could be introduced or existing weeds could be spread by construction vehicles and equipment. Effects would be adverse and moderate. However, these adverse effects would be mitigated by following Best Management Practices, namely, cleaning vehicles and equipment prior to arrival on site and cleaning them again on site once the work is completed. Adverse effects would then be minor.

In the long-term reopening the road would allow for weed spread to be encouraged by passing vehicles blowing seed off plants or by introducing new weeds to the area thus making adverse effects moderate. However, reseeding of the disturbed areas would allow for desirable plants to establish and compete with weeds in the future thereby reducing the likelihood that more weeds would establish then what already exists in the canyon. Therefore, beneficial effects would be negligible.

3.7 *HYDROLOGY, WATER QUALITY AND SOILS*

3.7.1 Affected Environment

The Wallupa Creek watershed at the upstream end of the project site has a drainage area of approximately 13.5 square miles. The drainage area varies in elevation by about 3,500 feet from the project site to the top of Akers Butte at the southern end of the watershed boundary. Wallupa Creek drains into the Grande Ronde River, which is a tributary to the Snake River, which then drains into the Columbia River. The mean annual precipitation over the watershed is roughly 24 inches (USDA-NRCS 1998 Annual Precipitation Map).

Wallupa Creek flows were taken from the October 2006 Bridge Hydraulics and Scour Assessment Detailed Report prepared by West Consultants for the Wallupa Road Bridge on the upstream end of the project area. The reported flood frequency estimates, in cubic feet per second, are shown below:

Peak Flow Estimates

Q2 = 95
Q5 = 156
Q10 = 199
Q25 = 250
Q50 = 303
Q100 = 344
Q500 = 454

There is no designated Federal Emergency Management Agency floodplain for this area. These sections of Wallupa Road and Wallupa Creek run parallel with each other in the bottom of a steep, narrow valley. Much of the valley bottom next to the creek has basalt rock outcrops along it, which helps keep the creek in place. This narrow, straight, steep section of Wallupa Creek has a cobble substrate with a reported average diameter of 7.5 inches. Much of the bed load in the drainage enters the creek from rock slides during freeze/thaw or large flow events. This valley has several locations with fractured basalt outcrops that are susceptible to slides. One such area is located adjacent to and across the creek from the most northern area of road washout and, in recent years, has slid across the creek and road, creating a blockage across both. The road washout areas can be attributed to an extreme flow event that increased the shear stress in the project areas to levels that started eroding the adjacent road fill, as the areas opposite the road were mostly solid rock. There does not appear to be any debris jams or other similar factors that caused the erosion and subsequent failure of the road fill. Flows were high enough to wash over the road in several locations.

There are several small drainages that enter Wallupa Creek along this section of road. There is evidence indicating that some of these drainages also experienced extreme flow events that

washed over the road and into the creek. These drainages are normally dry and run water only seasonally.

Wallupa Creek is part of the Lower Grande Ronde River Watershed. The creek has been identified as Category 5: Water quality limited and 303(d)-listed for temperature. It was added to the 303(d) list database in 2004. A total maximum daily load is currently needed. The beneficial use of the stream has been identified for year-round salmon and trout rearing and migration. Stream flows are also unchecked to provide for a natural flow regime that varies seasonally based on changes in ambient air temperature and seasonal precipitation patterns. The Wallupa Creek watershed is dominated by a timber grazing zone that provides one of the lowest anthropogenic impacts of any land use in the area. Very few rural developed areas (i.e., farm fields) are included within the Wallupa Creek watershed. Thus, there is limited potential for water quality impairments. While contaminant risk may be minimal, sediment loading within the creek can become extreme depending on precipitation and erosion. Sediment load becomes higher during periods of rain and when increased surface flow from snowmelt conveys loose surface substrate from surrounding lands.

3.7.2 Alternative A-No Action

Under the No Action Alternative, site hydrology and water quality would be unaltered from existing post-washout conditions during normal flow events. During high flow events, increased sedimentation would occur as more of the road embankment continued to wash into the creek. The channel is likely to continue eroding this area because of the higher shear stresses in this creek compared to the fine material in the road fill. The project area is likely to remain a significant sediment source to the creek for the foreseeable future as portions of the roadfill continue to erode.

3.7.3 Alternative B-Proposed Action

Because the Alternative A, Proposed Action, alignment is adjacent to the existing creek bank, road repair may cause minor adverse effects to water quality during construction. Though the extent of potential in- and near-water work would depend on water level and flows in Wallupa Creek during the time of construction, it is likely that placing the road prism toe rock below the ordinary high water mark could increase the amount of sediment flowing to the creek in the areas of active flow, even with the implementation of best management practices. The amount of sediment entering the channel during construction would be minor, if any, especially considering the high sediment load that is occurring from erosion of the road fill during high flows. Furthermore, in-water work, if necessary, would likely impact creek water quality by increasing turbidity and the amount of suspended sediments. All potential impacts from construction would be minor and short-term. All permanent work would be limited to the extent of the pre-flood road fill area. The long-term benefits to water quality from this alternative include the stabilization of the road fill area and reduced sedimentation into the creek.

Improvements to the lower site include a temporary culvert to divert water out of the fill area. The culvert, precast concrete blocks, and sandbags used for this water diversion should eliminate sediment from entering the river from fill materials used for water diversion or control. Minor creek bottom sediments could be disturbed during the placement and removal of the culvert, precast concrete blocks, and sandbags used for water diversion.
Improvements at the upper site are being completed at the edge of the historic road prism that is not currently in the active channel at low creek flows. There is no proposed work in the flowing water at this location.

3.8 *VEGETATION*

3.8.1 Affected Environment

The riparian vegetation along Wallupa/Wildcat Creek Road on both private and public lands is dominated by woody species which includes; Alder (Betulaceae sp.), Dougfir (Pseudotsuga menziesii), Elderberry (Sambucus mexicana), Grandfir (Abies grandis),Ninebark (Physocarpus opulifolius),Ocean spray (Holodiscus discolor),Peach leaf willow (Salix amygdaloides),Ponderosa Pine (Pinus ponderosa),Redosier dogwood (Cornus sericea)and Sirynga (Philadelphus coronarius). On drier sites having high soil disturbance species consist of weeds which include Blue mustard (Chorispora tenella),Bull thistle (Cirisium vulgare),Bur buttercup (Ranunculus testiculatus), Canada thistle (Crisium arvense), Common burdock (Artium minus), Common cocklebur (Xanthium strumarium), Curly dock (Rumex crispus), Dalmatian toadflax (linaria dalmatica), Hounds tongue (Hieracium cynoglossoides), Knapweed (Centaurea sp.), Moth mullen (Vebascum blattaria), Mullen (Verbascum thapsus), Prickly lettuce (Lactuca serriola), Scotch thistle (Onopordum acanthium), Shepard's purse (Capsella bursa-pastoris) and Teasel (Dipsacus sp.).

Wallupa/Wildcat Creek Road was constructed in the 1920 and was initially used as a logging road. Due to the steep canyon walls the road was constructed in close proximity to the stream channel, this coupled with the lack of large rip-rap along the road/stream interfaces has resulted in portions of the Wallupa/Wildcat Creek Road to be washed out during high flow events. Most of the past washouts have occurred on private lands and have resulted in areas having sparse woody riparian vegetation.

3.8.2 Alternative A- No Action

Under the No Action Alternative moderate term (less than 15 years) erosion of the existing roadbed will continue to occur which will have a negative impact to riparian vegetation located between the roadbed and Wallupa Creek. The BLM expects during this time period 2-3 miles of late successional riparian vegetation, approximately 1 acre, will be temporarily removed along the BLM administered portion of Wallupa/Wildcat Creek Road. The BLM expects that this disturbed area would quickly re-vegetated and would be dominated by non-native annual grasses

and noxious weeds. As time progresses erosional processes are expected to slow and the roadbed should stabilize. Once stabilization has occurred native late successional woody species would dominate areas that has adequate soil moisture and dryer areas would be dominated by invasive species and noxious weeds.

3.8.3 Alternative B-Proposed Action

Under the Proposed Action Alternative repairs to the Wallupa/Wildcat Creek Road would occur within the existing disturbance footprint. These road repairs would minimize erosion resulting in a suitable site for native riparian vegetation. To further promote riparian vegetation Alternative 1 would salvage 12 mature alder trees that are currently growing within the confines of new stream channel. The BLM expects that initially the riparian area would be dominated by weed species, see Botanical Evaluation, in the short term (less than 5 years) and over time the native late successional species would dominate the site. The short term adverse impacts for Alternative 1 would be isolated to the 840 feet of road being repaired which is 4400 to 9700 feet less than what the BLM expects to occur under the No Action Alternative. In addition the BLM expects that under Alternative 1 no adverse impacts would be detectable.

3.9 *GEOLOGY AND MINERAL RESOURSES*

3.9.1 Affected Environment

The main rock type along Wallupa Creek is basalt. These massive basalt flows are in correlation with the Columbia River basalts. On the ridge tops more lacustrine and fluvial deposits appear which can include poor to moderately well consolidated ash, pumice, diatomite, tuff and mud flow deposits. Basalt in this location is both nonporphyritic and porphyritic, hard, dark colored rock. All the rock lining the creek bed is rounded water worn basalt from the local area. There is little to no tectonic activity in the area, so there is no faulting or folding on the Wallupa Creek channel, but the Grande Ronde River does have some folds, flows down a syncline, and has interspersed sills and dikes of basalt and andesite.

The northern washout has a talus slope on the opposite side of the stream channel and may have had a slide to push the water into the temporary stream channel which washed out the road. Steep slopes of basalt do commonly have talus slopes associated with them and slides are frequent in this loose material. The material staged at the northern washout in April 2014 was about 35 large boulders for rip rap, and an estimated 75-100 cubic yards of sand to small boulder sized fill material in the barrow pit.

The mineral resources associated with basalt deposits only include the use of basalt for crushing for road bases or landscape rock. Basalt is especially desirable for landscaping when it is formed in columns or when it has very interesting lichens and moss growing on it.

3.9.2 Alternative A-No Action

If the road was left, there would be no need for source rock or require use of the rocks already staged at the northern washout. By leaving this road as is, members of the public would be unable to travel this route and it would cause further erosion and impasse of this road in future years.

3.9.3 Alternative B-Proposed Action

By using basalt for the base of the road would help prevent quick erosion of the base material. Larger rocks of 42 inches or more are difficult to find naturally, so they would need to be created. Source rock for riprap is from private lands and therefore would not need a free use permit issued to the BLM for the rock, but the fill material planned on being used from close by, would need to have a permit issued for use.

There should be no direct or indirect effects to the stream by putting riprap or fill material of the same type. The proposed locations to acquire both riprap and fill material are within 10 miles of the washout sites and therefore should be utilizing the same type of Columbia River basalt which is prevalent around Wallupa Creek.

3.10 *RANGE MANAGEMENT*

3.10.1 Affected Environment

The washout section of Wallupa/Wildcat Creek Road is within the boundaries of two BLM livestock grazing allotments; Deer Hallow Farms and Wallupa Creek East. Both of the allotments are classified as Custodial and most of the lands making up the allotments are private. Grazing occurs on both allotments every year during the spring (Aril to May) and Wallupa Creek East is also grazed during the fall (October). Total animal unit months (AUMs) for both allotments are sixty-nine. The Wallupa Creek drainage is steep and most of the land base, excluding the river channel, is inaccessible to livestock grazing. Due to this constraint the livestock operators for the past 11 years have not grazed the portion of the allotments where the washouts occurred.

3.10.2 Alternative A-No Action

Since BLM monitoring report document that livestock grazing has not occurred within the project area in the past 11 years the BLM believes there would be no impacts to livestock grazing.

3.10.3 Alternative B-Proposed Action

Same impact as described in Alternative A.

3.11 *WILDLIFE AND SPECIAL STATUS SPECIES*

3.11.1 Introduction

This analysis describes the terrestrial wildlife species found in the project area and the effects of the alternatives on these species. Rather than addressing all the wildlife species found within the project area, discussions will focus on any federal threatened and endangered species, Bureau of Land Management (BLM) special status species, species of local importance, and neotropical migratory land birds. The existing condition is described for each species, group of species, or habitat in which the species lives. Direct, indirect, and cumulative effects of alternatives are identified and discussed.

Regulatory framework

Three main documents are used to construct management relevant to wildlife: the Endangered Species Act 1973 (ESA), BLM 6840 Manual for Special Status Species, and the Migratory Bird Treaty Act (MBTA) of 1918 (as amended). Direction relative to wildlife is as follows:

- ESA of 1973 requires the BLM to manage for the recovery of threatened and endangered species and the ecosystems upon which they depend. The BLM is required to consult with the US Fish and Wildlife Service (USFWS) if a proposed activity may affect the population or habitat of a listed species.

- BLM Manual 6840 -Special Status Species Management provides policy and guidance for the conservation of BLM special status species and the ecosystems upon which they depend on BLM-administered lands. BLM special status species are: 1) species listed or proposed for listing under the Endangered Species Act (ESA), and 2) species requiring special management consideration to promote their conservation and reduce the likelihood and need for future listing under the ESA, which are designated as Bureau sensitive by the State Director(s). All Federal candidate species, proposed species, and delisted species in the 5 years following delisting will be conserved as Bureau sensitive species.

- Migratory Bird Treaty Act (MBTA) established in 1918 as an international framework for the protection and conservation of migratory and Neotropical land birds. The Bureau has a responsibility to adhere to the mandates set forth under the Migratory Species Act of1918 (MBTA). Under executive order (EO) 13186 the BLM is mandated to strive to protect, restore, enhance, and manage habitats of migratory birds, and prevent the further loss and degradation of habitats on BLM Lands. This act implements various treaties and conventions between the United States and Canada, Japan, Mexico and the former Soviet Union for the protection of migratory birds. Under the act, it is unlawful to pursue, hunt,

take, capture (or kill) a migratory bird except as permitted by regulation (16 U.S.C. 703-704). In addition to the EO and MBTA, the BLM has a Memorandum of Understanding (MOU) with Partners in Flight (PIF) to stimulate and support an active approach to conservation of land birds in Oregon and Washington states. The overall goal of PIF bird conservation planning is to ensure long-term maintenance of healthy populations of native land birds.

Endangered Species Act Considerations (Endangered and Threatened Wildlife Species)

An endangered species is an animal or plant species listed under the ESA that is in danger of extinction throughout all or a significant portion of its range. A threatened species is an animal or plant species listed under the ESA that is likely to become endangered within the foreseeable future throughout all or a significant portion of its range. According to the best available records and field observations, no established federal species occur within the project site. Several unlisted species present are of concern to the USFWS, of which, some will be analyzed as part of the special status species listed for the BLM.

BLM special status wildlife and species of local importance

A special status species is an animal or plant species identified by the BLM for which species viability is a concern either 1) because of these species are predicted downward trend in population numbers or density, or 2) because of current or predicted downward trends in habitat capability that would reduce a species' existing distribution. There are three BLM special status wildlife species known to breed on public land, uses public land for part of their life history requirements, or has potential habitat located within the project area. These species are the gray wolf (*canis lupus),* Rocky Mountain tailed-frog (*Ascaphus montanus*), and fringed myotis (*Myotis evotis).* Species of local importance are typically species that have no federal designation for conservation, but are important to tribes and other public interests within this project area these wildlife species are elk and deer.

Neotropical Migratory Bird Species (MBTA)

The project area provides habitat for neotropical migratory land birds (birds that migrate that are not waterfowl or birds associated with wetland areas) that prefer dry to riparian woodland forested areas (OR/WA PIF 2000). Migratory bird species use suitable habitat in this area for nesting, foraging, and resting as they pass through on their yearly migrations. Dry forested and riparian woodland forest associated species present or seasonally include: chipping sparrow (*Spizella passerina*), willow flycatcher (*Empidonax traillii*), warbling vireo (***Vireo** gilvus*), hairy woodpecker (*Picoides villosus*), and downy woodpecker (*Picoides pubescens*). The project area is mainly within a riparian area where migratory bird diversity and richness is relatively high. Levels of conservation will depend on action alternatives described under the analysis portion of the EA.

Description of Magnitude

Negligible impacts- will be defined as impacts on wildlife species would be at or below the level of detection, and the changes would be so slight that they would not be of any measurable or perceptible consequence to individuals or the population as a whole.

Minor impacts- will be defined as the impacts on wildlife species would be detectable but localized, small, and of little consequence to the population of any species. Mitigating measures, if needed to offset adverse effects, would be simple and successful.

Moderate impacts- will be defined as the impacts on special status wildlife would be readily detectable and localized, with potential consequences at the population level. Mitigating measures, if needed to offset adverse effects, would be extensive and would probably be successful.

Major impacts- will be defined as impacts on special status wildlife would be obvious and would result in substantial consequences to the populations in the region. Extensive mitigating measures would be needed to offset adverse effects, and their success would not be guaranteed. Actions that would likely result in effects to special status species of this severity would not be authorized or undertaken.

Description of time

Short-term- will be defined is a period of time less than 5 years.

Mid-term- will be defined as a period of time greater than 5 years but less than 15.

Long-Term- will be defined as a period of time greater than 15 years.

3.11.2 Gray Wolf

3.11.2.1 Affected Environment

Gray wolves are habitat generalists, inhabiting a variety of plant communities containing a mix of forested and open areas with a variety of topographic features. Historically, they occupied a broad spectrum of habitats including grasslands, sagebrush steppe, and coniferous, mixed, and alpine forests. They have extensive home ranges and prefer areas with few roads, avoiding areas with an open road density >1.0 mi/mi2 (Witmer et al. 1998). Wolves are limited by prey availability and threatened by human disturbance. Wolves typically hunt big game animals like elk and deer and are readily found within the project area. Normally, land management activities are compatible with wolf protection and recovery.

The project area is surrounded by three breeding wolf pack ranges (Minam, Wenaha, and Imnaha). Localized wolf activity has been documented in relation to the project area near the Wallowa Mountains extending north toward the town of Troy, Oregon. Habitat and disturbance impacts are a concern near denning and rendezvous areas, but no such features have been

identified in or adjacent to the project area. Habitat located within the project area would most likely be used transiently.

3.11.2.2 Alternative A- No Action

The No Action Alternative will keep the road in a post-washout condition which would directly limit or eliminate certain road activities, such as thru traffic, within the bottom portion Wallupa Creek. Limited traffic would decrease human disturbance that may alter prey distribution and opportunities within the project area. This would have minor beneficial impacts for wolves if reduced traffic leads to more prey opportunities.

However, this alterative may indirectly negligible to minor impacts on wildlife distribution and prey opportunities for the Wenaha wolf pack whose home ranges are located on the alternative travel routes. Alternative travel routes are expected to have higher traffic volumes which in some cases, could result in displacing wildlife. This would not be beneficial for the Wenaha wolves that use areas adjacent to alternative travel routes to hunt their prey. Depending on wolf pack home range, the No Action Alternative can have either beneficial or negative impacts. The No Action Alternative would have direct negligible to minor beneficial impacts to the Minam wolf pack because 11,528 acres of habitat would have limited vehicle and human disturbance. However, the No Action Alternative would have negligible indirect negative impacts to the Wenaha wolf pack because of increased traffic on alternative travel routes within their home range. Overall the beneficial impacts for the No Action Alternative would be minor in magnitude.

3.11.2.3 Alternative B-Proposed Action

Repairing the existing road would not add to the overall road density within the area because this road was an established travel route prior to the washout. Alternative 2 would not change the road density within the Minam wolf pack home range because the road-repair would follow an existing roadbed.

Due to the impassability of the road, it is likely that there has been less traffic and human disturbance since the time of the washouts. An assumption can be made that because of the reduced traffic and human disturbance, wildlife use has increased within Wallupa Creek. The increase of wildlife within the area would have minor benefits to the area. After the road is repaired, wildlife use within the drainage would likely resume distribution patterns to those prior to road washout. This would mean less wildlife would use the Wallupa Creek drainage thereby reducing prey opportunities within Minam wolf pack home range.

All road repairs would be done during the instream work window of July 1st through August 15th. Please see fisheries section to learn more about the instream work window. During construction, there would be an increase in noise levels from machinery used to repair the road and human presence. This would cause wildlife to avoid this area which may have a minor impact prey

opportunities for wolves. There are no known rendezvous or denning sites within the area that could be impacted by noise and human disturbance. Wolves are expected to avoid the area if human presence is detected.

Once the road repair is complete, the alternate travel routes are expected to resume back to normal traffic patterns. This would be beneficial to the Wenaha wolf packs home ranges that are located within alternative travel routes and have experienced an increase in vehicular traffic since the washouts. Compared to the No Action Alternative, the Action Alternative is less beneficial for the Minam pack home range because repairing the road would increase road traffic returning it to pre-washout conditions. Any negative impacts are expected to be negligible to minor in magnitude.

3.11.3 Rocky Mountain Tailed Frog

3.11.3.1 Affected Environment

Tailed frogs are strongly adapted to cold water conditions. They typically occur in cold, fast-flowing streams that contain large cobble or boulder substrates, little silt, often darkly shaded, and with temperatures less than 20ºC (Bull and Carter 1996). Hatchlings are striking because they have no pigment and are almost transparent. Tailed frogs develop very slowly in the cold water, and tadpoles are two to five years old before they metamorphose (Corkran and Thoms 1996), and 7 to 8 years old before they reach sexual maturity (Bull and Carter 1996). Tailed frogs lay their eggs in streams in the summer, attaching them under cobbles or boulder-sized rocks. Tadpoles cling to the undersides of small, moss-free boulders or large cobbles. They are more likely to be found further downstream than adults (Corkran and Thoms 1996). Adults often occur on streambanks at night and during wet weather.

Although tailed frogs are not known to occur in the project area, the Wallupa Creek drainage is a low-silt system that has a boulder, cobble substrate which provides suitable habitat for these frogs. BLM water quality measurements show that the water temperatures within Wallupa Creek are within the desired temperatures needed for tailed frogs.

3.11.3.2 Alternative A- No Action

The No Action Alternative will keep the road in a post-washout condition. This would directly limit or eliminate road maintenance within the bottom portion of Wallupa Creek, keeping it impassable to vehicles. Without road maintenance, the stream would function in a more natural state controlled by ecological processes rather than human involvement.

Roads, like the one found in the Wallupa Creek drainage, is a constant sediment source because of the maintenance from vehicle traffic and road surface washing away. If left in a post-washout condition, Wallupa Creek would be allowed to return to a stream channel similar to what existed prior to construction of the road. In the short-term, while the creek was stabilizing, the washout

would continue to be a sediment source within Wallupa Creek. This would have a negative moderate impact for tailed frogs because of their need for low-silt systems. However, in the long-term, once the creek is stabilized, sediment within the creek would return to a low-silt stream system which would be moderately beneficial for tailed frogs. Additionally, as the creek returns to a more natural state, the streambank would start to revegetate and thereby shade and cool the stream which is beneficial to tailed frogs.

Although in the short-term, the No Action Alternative have a moderate impact on tailed frogs because the washout is a source of sediment; in the long-term, this alternative have a moderate beneficial impact to the tailed frogs because it would let the creek function in a natural state and overtime, stabilize and return to a low-silt stream. Overall, the No Action Alternative would have minor to moderate beneficial impacts to tailed frogs within Wallupa Creek.

3.11.3.3 Alternative B -Proposed Action

The Action Alternative would reconstruct the road to pre-washout conditions. As stated above, roads that are located in close proximity to creeks are a constant and unnatural sediment source. This alternative has two negative impacts associated with sediment load: 1) short-term impacts: sediment load while the road is being repaired, 2) long-term impacts: sediment load once the road is completed.

Short-term impacts would take place within an instream work window of 45 days between July 1 and August 15. Please to the fisheries section to learn more about the instream work window. This work window coincides with the breeding time of tailed-frogs where egg masses are more vulnerable to sediment events. However, best management practices would be used and silt fences and culverts would help reduce added sediment loads within Wallupa Creek. Negative impacts are expected to be minor to moderate.

In the long-term, once the road is repaired, the streambank would always be a greater source of sediment than if it was left in a natural state. Sediment loads and events would be manipulated not by ecological processes, but by human intervention as needed to maintain and repair the road. This would increase the overall sediment load in the creek channel and be detrimental for tailed-frogs that need a low-silt system for their life history needs. Negative impacts are expected to be localized and minor to moderate in magnitude. Please see the fisheries section for a complete analysis of sediment within a stream. Compared to the No Action Alternative, the Action Alternative is less beneficial for tailed frogs because it would result in a higher long term sediment load in the Wallupa Creek drainage. Overall, Alternative 2 would have negative impacts that are minor to moderate in magnitude to the tailed frog.

3.11.4 Finged Myotis

3.11.4.1 Affected Environment

Little of this bat's life history is known. This bat is named for a noticeable fringe of stiff straw-colored hairs on the trailing edge of the tail membrane. They are thought to emerge about two hours after sunset to feed on various insects by foraging along waterways or above the canopy of the vegetation. Females congregate in nursery colonies to give birth to a single young which is born hairless. Even though breeding occurs in the fall, the egg is not fertilized nor does development of the fetus begin until the spring. Amazingly, the young develop very rapidly and can fly within 20 days. The fringed myotis roosts in caves, abandoned buildings, rock crevices, and trees.

These bats have adapted to numerous environments occupying a large variety of ecological habitats from sagebrush steppe to mesic mixed forests. This project area is well within their distribution and breeding range of the species and offers a variety of natural structures for their life history needs.

3.11.4.2 Alternative A- No Action

The No Action Alternative will keep the road in a post-washout condition which would directly limit or eliminate certain road activity within the bottom portion Wallupa Creek. Less road traffic would reduce any potential activity that would disturb roosting bats within the project area. Overtime, the road would naturally reclaim itself and reestablish vegetation along the roadbed and streambank creating additional roost sites for this bat species. Because of reduced disturbance and reestablishment of streambank vegetation the No Action Alternative would have minor beneficial impacts to fringe bats in the area.

3.11.4.3 Alternative B- Proposed Action

Direct impacts for bats would be any removal (accidental or otherwise) of vegetation (e.g. trees, shrubs, snags or piled debris from site) that are being used as roost sites. Other direct impacts would be added noise and human disturbance during the course of road repair. Indirectly, this alternative would have negative impacts from resumed/increased traffic use once the road is repaired. Compared to the No Action Alternative, this alternative is less beneficial for the fringed myotis. Negative impacts under Alternative 2 would be negligible to minor in magnitude.

3.11.5 Big Game

3.11.5.1 Affected Environment

Elk and deer are the most prevalent big game species in northeastern Oregon and are an indicator of the quality and diversity of general forested habitat. Elk exploit a variety of habitat types in all successional stages and use patterns change both daily and seasonally. Rowland et al. (2005),

found that road disturbance is a major factor influencing elk distribution across the landscape in northeastern Oregon. There are two species of deer that are found within the project site (mule and white-tail). Like elk, road density and disturbance is also a factor influencing their distribution across the landscape (Wisdom et al. 2005a, Wisdom et al 2005b).

Areas within and adjacent to the project site would support habitat for both elk and deer. The project area could be used to water, calve, forage, or used as a corridor to travel from and to other habitat areas within the area. The project is located within the Minam Hunting Unit. The Minam Hunting Unit is 368,439 acres of which 74 percent is public.

3.11.5.2 Alternative A- No Action

The No Action Alternative will keep the road in a post-washout condition. The washouts have rendered the road impassable; therefore, it is reasonable to conclude that there will be less vehicular travel as well as less human presence within the bottom portion of Wallupa Creek. Less human presence within the bottom portion of Wallupa Creek would contribute to beneficial impacts for wildlife that are minor in magnitude.

It is expected that wildlife use in this area would be greater if there were less vehicular traffic and human disturbance. By keeping this area in a post-washout condition it would reduce or eliminate negative impacts associated between roads and big game, as well as indirectly reduce human disturbance.

Indirectly, short-term negative impacts would be moderate because of the probability of noxious weed spread as long as the channel is stabilizing within Wallupa Creek. An establishment of weeds would reduce the amount of forage available to big game. However, long-term as the channel stabilizes there desirable vegetation would most likely outcompete weed establishment and this would contribute to beneficial impacts that are minor to moderate in magnitude. The No Action Alternative would be beneficial to big game that is negligible to minor in magnitude because it would reduce 11,528 acres of disturbance within the Minam hunting unit which is 368,439 acres or 3 percent.

3.11.5.3 Alternative B- Proposed Action

The Action Alternative will repair the Wallupa/Wildcat Creek Road to a pre-washout condition allowing vehicular traffic to resume through the Wallupa Creek drainage. According to researches, roads have a greater influence in big game distribution than previously understood(Wisdom et al 2005a, 2005b, 2005c; Rowland et al 2005; Naylor et al 2008). Most road uses have direct negative impacts to big game. Some of these associations include habitat displacement, added points of collision from vehicles, and an increased vulnerability to mortality from hunter harvest; both legal and illegal. Indirectly, roads add to habitat fragmentation,

increase rates of soil erosion, and facilitate noxious weed spread thereby reducing overall available forage for big game.

The road repair would take place in a short timeframe (i.e. 45 days). However, during that timeframe heavy machinery used would create noise and there would be an increase in human presence from road repair crews. This would mean that big game would be displaced during the course of the road repair because big game typically avoid areas of noise and human presence (Rowland 2005, Wisdom et al. 2005b). Once the road was repaired, it is likely that big game distribution would go back to historic patterns. However, the road would still have direct and indirect impacts to wildlife that are minor to moderate in magnitude.

Compared to the No Action Alternative, this alternative would have negative impacts to big game that are minor to moderate in magnitude.

3.12 *Visual Resources and Recreation*

3.12.1 Affected Environment

As identified in the Baker Resource Management Plan Record of Decision (July 1989), the Management Direction for Recreation is to "Provide or enhance recreational opportunities for hunting, fishing, swimming, floating, boating, hiking, and sightseeing."

The Wallupa/Wildcat Creek Road provides access to both public and private lands within the creek drainages themselves as well as the area along the Grande Ronde River. In its current condition as a result of damage inflicted by a high water event in 2014, this road is no longer passable by motorized vehicles and therefore no longer provides an access thoroughfare to any property or recreation facilities in the areas associated with this route. Although the BLM land on which the proposed project is physically located does not, itself, see any measurable recreational activities other than occasional dispersed uses, the access associated with the Wallupa/Wildcat Creek Road leads to a highly popular recreation area for both day-use and extended use recreational activities for residents and visitors to northeast Oregon. This access road has served as the primary and most popular route for entry to and exit from the Grande Ronde Wild and Scenic River as well as to access the community of Troy OR and other public lands downriver. Visitor uses of the area surrounding the location of the proposed project include float boating, fishing, hunting, driving for pleasure, sight-seeing, camping, hiking, and other general public and private land activities. Although there are several other routes that lead to and offer thoroughfares to the same area as the Wallupa/Wildcat Creek road such as the Bartlett Road, Redmond Grade road (aka Flora Grade road), Troy road (aka Powwatka Ridge road), Grande Ronde River Road and Highways 3 & 129, the Wallupa/Wildcat route is the most well-known, shortest distance, and most heavily travelled by a large portion of the visitors to the

area. Recreation use within the surrounding area of the proposed project occurs on a year-round basis for all recreational pursuits which have historically utilized the Wallupa/Wildcat Creek road throughout every season and at varying use levels. Primarily, the float boating season during the summer months, the fishing season in early spring and fall, and the hunting season during the fall and early winter, create the highest use periods of the Wallupa/Wildcat Creek road. Total use of the area associated with the Wallupa/Wildcat Creek road is not specifically known, but it is estimated that current use ranges from 5,000-10,000 visitors per year who utilize this road to access federal, state and private lands in pursuit of their specific recreational activity.

The area's topography is characterized by rugged mountains in the headwaters areas with plateaus of the lower basin being dissected by precipitous canyons. The dominant land cover varies from solid forested lands flowing into grasses intermixed with "stringers" of timber that eventually lead to a variety of riparian vegetation along streams and rivers. The terrain is steep and rugged with laterally entrenched meanders cut by the rivers and streams through large basalt lava flows. The Visual Resource Management (VRM) classification for the area associated with the proposed project is VRM Class III which states that management activities may be seen by the casual observer, but should not dominate the viewshed.

3.12.2 Alternative A-No Action

Recreation Resources

Under Alternative A, the segments of the road that have been washed out or destroyed by the water event along the Wallupa/Wildcat Creek road would not be reconstructed. In the short term, recreational opportunities and landowner access would be adversely affected although only slightly under the No Action Alternative as there are several alternate routes that access the same general area as was previously provided by the Wallupa/Wildcat Creek Road. These adverse impacts to visitors and landowners would reduce steadily over time as the alternate routes become more familiar and as visitor use migrates to those routes. In the long term, familiarity with the alternate routes, road conditions due to seasonal weather fluctuations, and the timeframes associated with travelling those routes would become the norm and access to the Grande Ronde River and Troy area would be satisfied. Recreation uses such as hunting, fishing, hiking, non-motorized boating and other activities that are currently popular within the area would not be expected to change in numbers or duration as a result of the implementation of this alternative. Adverse impacts would be minimal to moderate in the short term with negligible adverse impacts in the long term.

Visual Resources

Visual resources associated with the area would not be affected under Alternative A. The VRM classification would not be violated nor improved by this alternative.

3.12.3 Alternative B-Proposed Action

Recreation Resources

Implementation of this alternative assumes that the Wallupa/Wildcat Creek road would be reconstructed to standards that would provide year around full size vehicular access to the Grande Ronde River and Troy OR area by the general public. Adverse impacts would be in the short term only and minimal in nature while repair of the road was underway. The long term impacts would be beneficial and moderate as the repair would return historic access and historic use patterns to the area.

Visual Resources

Since the road would be reconstructed in the same area and to the same condition as it was prior to the high water event of 2014, there would be only slight and short term adverse impacts to the overall visual resources of the area. In the short term, vegetation removal, ground disturbance, color deviations from introduced materials, and visual impacts created by heavy machinery would result in actions being noticeable to the casual observer. However, these impacts would not violate the visual resource management objectives for the area. Re-growth and natural weathering of disturbed areas are expected to eliminate these impacts within a few growing seasons. Adverse effects would be negligible in the short term with no long term impacts as a result of this alternative.

3.13 *SOCIOECONOMIC RESOURCES*

3.13.1 Affected Environment

The project area is located within Wallowa County. Wallowa County produces a variety of goods and services; however natural resource is the main contributor to the economy. Agricultural Production & Processing and Timber Production & Processing are stable. These sectors support about a quarter of the economy. The economic activity that tourism, associated construction and real estate sales, and related government management activities, provided by the "services" that people enjoy from Wallowa County's natural resources support another quarter of the economy. Due to the rapidly aging population of Wallowa County, a third of the economy income received by households from the government, prior investments, and to lesser degree outside employers. The remaining 15-20% is supported by Manufacturing – Other than Ag. & Wood Products, which is to a large degree the foundries (Oregon State Extension 2008).

3.13.2 Alternative A – No Action

Under Alternative A Wallupa/Wildcat Creek Road would not be maintained on the BLM administered land and commerce and public would have to use alternative routes. Most of the Alternative travel routes would result in an increase of travel distance by approximately15 miles to access the larger community of Wallowa. This increase in travel distance would result in negligible adverse impact to economic of the town of Promise and Troy.

3.13.3 Alternative B – Proposed Action

Under Alternative B the Wallupa/Wildcat Creek Road would be repaired within three weeks. Within this time period up to 15 people could be working on site which would have a short term minor beneficial impact to the socioeconomics of Wallowa County. Further impacting socioeconomics commerce and public would not have to travel on alternative which would cut travel distances to the larger town of Wallowa by approximately 15 miles which would have a long term negligible beneficial impact.

4 CUMULATIVE IMPACT ANALYSIS INCLUDING PAST, PRESENT, AND FUTURE ACTIONS

4.1 *Climate Change*

The BLM is not aware of past, present or reasonably foreseeable future projects on public or private lands within the project area that would have an impact on climate change. Therefore, cumulative impacts for climate change would be the same as documented in the Affected Environment.

4.2 *Cultural and Historic Resources*

Alternative A (no action alternative)-
Cumulatively, the effect of other BLM activities in combination with the actions identified in Alternative A, on cultural resources is expected to result in current disturbance levels over the short to long term (3+ years).

Alternative B (action alternative) 2-
Cumulatively the effect of other BLM activities in combination with the actions identified with Alternative B on cultural sites is negitive, as a result of the Level III cultural resource survey; no surface heritage sites were located in the APE thus; no negitive effects from the proposed activity are expected.

4.3 *Fisheries*

The logical analysis area used to evaluate cumulative effects of the Wallupa Road Reconstruction project to fish and fish habitat includes past, present, and future management activities within the Wildcat and Wallupa Creek subwatersheds.

The only current BLM-authorized management activity within the Wildcat and Wallupa Creek subwatersheds is livestock grazing. There are a total of 3 livestock grazing allotments with

boundaries that lie within these subwatersheds: Lease 6542 (RM 53), Lease 6551 (Wallupa East), and Lease 6557 (Wallupa West).

Lease 6542 contains an approximately 100-acre BLM parcel along the eastside of Wallupa Road that contains 1.5 miles of Wildcat Creek. Steep terrain and dense timber vegetation on either side of the road within this narrow drainage bottom limits cattle access to Wildcat Creek and reduces the grazing suitability within this BLM parcel. There is an approximate 1,200 foot elevation difference from the bottom of the Wallupa Road to the top of Powwatka Ridge. Based on the topography and lack of grazing suitability within this BLM parcel, cattle access and use is restricted to private land along the top of Powwatka Ridge to the east of Wildcat Creek. This has been verified by documented river or land-based site observations and range inspections by the BLM since at least 1998.

Leases 6551 and 6557 lie directly south of lease 6542 and adjacent to Wallupa Creek, and are separated from each other by a north/south allotment boundary that splits them west and east of the Wallupa Road. BLM land within lease 6551 contains less than 1 mile of Wallupa Creek and is bordered to the north and south by private land and to the east by USFS land (T4N, R42E, Sections 1, 12, and 13). BLM land within lease 6557 contains less than 1.5 miles of Wallupa Creek and is bordered to the north, south, and west by private land (T4N, R42E, Section 14). BLM lands within both of these leases are characterized by steep canyon slopes, dense riparian vegetation, and dense timber vegetation along the north-facing slopes, which reduces grazing access and suitability within these BLM parcels. There is an approximate 1,100 foot elevation difference from the bottom of the Wallupa Road to the top of the ridges on either side of the canyon. Based on the topography and lack of grazing suitability within these BLM parcels, cattle access and use is restricted to private and USFS lands along the ridgetops on either side of the canyon. This has been verified by documented river or land-based site observations and range inspections by the BLM since at least 1998.

No cumulative effects would occur to fish and fish habitat from livestock grazing due to verification of grazing absence and the lack of grazing access and suitability on BLM parcels within all three livestock grazing allotments. There are no known BLM-authorized past activities and no known future activities planned within the Wildcat and Wallupa Creek subwatersheds. The continued use of the road for public and private purposes would remain the same. Therefore, no cumulative effects to fish and fish habitat will occur within the Wildcat and Wallupa Creek subwatersheds as a result of implementation of the Wallupa Road Reconstruction project.

4.4 *Noxious and Non-Native Invasive Plants*

Past actions within the project area that have had impacts on noxious weeds and non-native invasive plants are limited to the construction of the Wallupa/Wildcat Creek Road and possibly historic livestock grazing. Both of these actions have resulted in noxious weeds and invasive plants occupying the disturbed areas adjacent to the roadbed. The BLM estimates there are between 1-2 acres of noxious weeds and invasive plants. Ongoing projects in the decision area include a weed spaying program on the adjacent Forest Service lands which would reduce the

seed source and may reduce the amount of noxious and non-native invasive plants. In addition the BLM expects that the Wallupa/Wildcat Creek Road will in the future washout again due to the confined channel. Future roadwork will likely increase the density of noxious and non-native invasive plants and this increase will be localized to the area immediately adjacent to the Wallupa/Wildcat Creek Road.

4.5 *Hydrology, and Water Quality and Soils*

Past and present projects impacting vegetation resources along the Wallupa/Wildcat Creek Road are limited to the construction and subsequent repairs of the Wallupa/Wildcat Creek Road, caused by high flow events. Livestock grazing could also impact riparian vegetation along Wallupa/Wildcat Creek Road however in the past 10 years no livestock or livestock sign have been observed on either private or public lands in the vicinity of Wallupa Creek. Past washouts have resulted in small localized (20-250 feet in length) areas having sparse wood riparian vegetation. There is a high potential that future washouts will occur on both private and public porsions of the Wallupa/Wildcat Creek Road resulting in areas with low densities of woody vegetation.

4.6 *Vegetation*

The BLM is not aware of past, present or reasonably foreseeable future projects on public or private lands within the project area that would have an impact on vegetation. Therefore, cumulative impacts for climate change would be the same as documented in the Affected Environment.

4.7 *Geology and Mineral Resources*

Due to lack of direct or indirect effects to geology or mineral resources in this area, there should be no cumulative effects. There is no current mining, active claims, or any leasing proposed in this area or using this route for access. Since the rock on the BLM is to be used, it would be permitted and not be available for use somewhere else in the future.

There would be no cumulative effects anticipated to the Recreation or Visual resources of the area as a result of the implementation of either alternative.

4.2. Unavoidable Adverse Effects
4.3. Relationship of Short-Term Uses and Long-Term Productivity
4.4. Irreversible and Irretrievable Commitments of Resources
4.5. Potential Conflicts with Plans and Policies of Other Agencies
4.6. Energy Requirements

4.8 *Recreation Resources & Visual Resources*

There are no present or future projects planned within the project area that would have an impact on Recreation and Visual Resources. Therefore the cumulative impacts will be the same as documented in the Affected Environment.

4.9 *Range Management*

During the 2001 grazing year the BLM implemented riparian utilization standards for both grasses and shrubs. Wallupa Creek is narrow with low grass production which could only support 5-10 cows for 5-7 days before standards are met or exceeded. Due to the implementation of these standards the livestock operators of these allotments no longer actively place livestock near Wallupa Creek. Under current management livestock grazing occurs primarily on the private lands within these two allotments. There are no present or reasonably forseeable future actions that would impact livestock grazing within Walupa creek East or Deer Hollow Farms livestock grazing allotments.

4.10 *Wildlife and Special Status and Species of Local Importance*

Alternative A (no action alternative)-
Cumulative impacts from the No Action Alternative incorporates past, current, and foreseeable events within the Wallupa Creek drainage. Logging within this area has been an historic influence on wildlife distribution and habitat use. There is some logging activity on private lands that may affect wildlife distribution. It is reasonable to believe that logging practices would have negligible to minor impacts to wildlife populations within the area. Other past, current, and foreseeable impacts within the Wallupa Creek drainage includes continued landslide and road washout activity. These impacts would continue within Wallupa Creek until the channel is stabilized. It is expected that wildlife use within the Wallupa Creek drainage would increase as disturbances continue to influence wildlife habitat adjacent to the project area. It is also reasonable to assume that this area would continue to stabilize and without human intervention while stabilizing weed spread may reduce the available forage within the area. However over the long-term these areas would vegetate with native vegetation. Cumulatively, past, present, and future impacts would be negligible to minor in magnitude.

Alternative B (action alternative) 2-
As described above, logging practices was the major impact influencing wildlife distribution. Currently, only private lands are logging within around the Wallupa Creek drainage. One other impact influencing wildlife distribution would be roads. Currently, the road is impassable which has reduced vehicular traffic thereby increasing wildlife habitat use within Wallupa Creek. It is reasonable to assume that repairing the road would be a constant need because of the roadbed that is constructed close to a stream channel. Landslides and washout events are expected to

continue and road repair will be a source of wildlife disturbance. The combination of logging events and continued road repairs from washouts and landslides would have minor to moderate impacts on wildlife within the Wallupa Creek drainage and adjacent lands.

4.11 *Socio-economic Resources*

Past actions affecting Socio-economic Resources are reflected in the Affected Environment section of this document. The BLM is not aware of any current or future projects that are impacting socio-economics within Wallowa County. Therefore, cumulative impacts to socio-economic resources are restricted to the direct and indirect impacts analysis of this document.

5 List of Preparers

Staff Member	Profession
Lori Wood	Field Manager
John Rademacher	Supervisory NRS /Document Preparer
John Quintela	Fisheries Biologist
Kevin McCoy	Outdoor Recreation Planner
Melissa Yzquierdo	Wildlife Biologist/Botanist
Todd Kuck	Hydrologist / Assistant Field Manager
Katy Coddington	Archaeologist
Cheryl Bradford	Archaeologist
Erin McConnell	Noxious Weed Specialist
Paula McBroom	Resource Assistant
Paul Leatherberry	GIS
Meg Doolittle	Minerals

6 REFERENCES

Walker, George W., *Geologic Map of Oregon East of the 121st Meridian.* 1977. US Geological Survey. Map I-902. Scale 1:500,000.

DOI. BLM. 1989 Baker Resource Management Record of Decision.

Adamus, P.R., K. Larsen, G.Gillson, and C.R. Miller. 2001. Oregon Breeding Bird Atlas. Oregon Field Ornithologists, Eugene, OR. CD-ROM

Altman, B. 2000. Conservation strategy for landbirds in the northern Rocky Mountains of eastern Oregon and Washington, version 1.0. Oregon-Washington Partners in Flight. 128p.

Bartlett, G. (1967). *Old Chief Joseph and Young Chief Joseph of the Wallowa Nez Perce Indians*. Joseph, OR.

Bartlett, G. (1979). *Wallowa: the land of winding waters*.

Bartlett, G. (1984). *The Wallowa Country 1867-1877*. Fairfield, WA: YE Galleon Press.

Bartlett, G. (1992). *From the Wallowas*. Enterprise, OR: Pika Press.

Bull, E.L., Carter, B.E., 1996. Tailed frogs: distribution, ecology and association with timber harvest in northeastern Oregon. United States Forest Service, Pacific Northwest Research Station, Portland, Oregon, Research Paper 497, pp. 11.

Carmichael, R. W., and R. Boyce. 1987. United States versus Oregon, Grande Ronde River Steelhead Production Report. Oregon Department of Fish and Wildlife, La Grande, Oregon.

Corkran, C. C., and C. Thoms. 2006. Amphibians of Oregon, Washington, and British Columbia. Lone Pine Publishing, Auburn, WA.

Hardesty, Donald L., Little, Barbara J. 2000. *Assessing Site Significance.* AltaMira Press, Walnut Creek, CA

Hartle, S. (2002). *Chief Joseph – Nez Perce*. The Junto Society. Retrieved August 17,

2005, from http://www.juntosociety.com/native/nezperce.htm

Hudson, Lorelea, Gary C. Ayres, George F. Gauzza, and Joseph Randolph.1978.*Cultural Resource Overview of the Malheur, Umatilla, and Wallowa-Whitman National Forest, Vol. I.* Cultural Resource Consultants, Inc. Sandpoint, Idaho.

Indian wars: The Nez Perce War 1877. (2005). Retrieved September 19, 2005, from http://www.u-s-history.com/pages/h1549.html

Josephy, Alvin M. Jr. 1965. *The Nez Perce Indians and the Opening of the Northwest*. New Haven: Yale University Press.

Leopold, Luna B., M. Gordon Wolman, and John P. Miller. *Fluvial Processes in Geomorphology.* New York: W. H. Freeman & Co., 1964.

National Oceanic and Atmospheric Administration (NOAA). 1993. Designated Critical Habitat; Snake River Sockeye Salmon, Snake River Spring/Summer Chinook Salmon, and Snake River Fall Chinook Salmon. Federal Register Vol. 58, No. 247, Tuesday, December 28, 1993, page 68543.

Naylor, Leslie M., Wisdom, Michael J., and Anthony, Robert G. 2009. Behavioral Responses of North American Elk to Recreational Activity. Journal of Wildlife Management 73(3):328-338, 2009.

Nez Perce Tribe of Idaho et al. 1990. Columbia Basin System Planning Draft: Imnaha Subbasin. Nez Perce Tribe of Idaho, Lapwai, Idaho.

Northwest Power and Conservation Council (NWPCC). 2004. Grande Ronde Subbasin Plan. Available online at http://www.nwcouncil.org/fw/subbasinplanning/granderonde/plan/

Oregon Department of Fish and Wildlife (ODFW). 1990. Grande Ronde River Subbasin salmon and steelhead production plan. Prepared for the Northwest Power Planning Council, and the agencies and Indian Tribes of the Columbia Basin Fish and Wildlife Authority, Oregon Department of Fish and Wildlife. Portland, Oregon.

Oregon Department of Fish and Wildlife (ODFW). 1997. Personal communication.

Oregon Department of Fish and Wildlife. 2010. Oregon Wolf Conservation and Management Plan. Salem, OR

Rosgen, D.L., 1994. A Stream Classification System. *Catena, 22* 169199. Elsevier Science, Amsterdam.

Rosgen, D.L., 1996. *Applied River Morphology*. Wildland Hydrology Books, Pagosa Springs, Colorado, and Ft. Collins, CO.

Rowland, M.M., M.J. Wisdom, B.K. Johnson, and M.A. Penninger. 2005. Effects of roads on elk: implications for management in forested ecosystems. Pgs. 42-52 in Wisdom, M.J., tech. ed., The Starkey Project: a synthesis of long-term studies of elk and mule deer. Transactions of the North American Wildlife and Natural Resources Conference.

Schumm, S.A., Harvey, M.D.,Watson, C.C., 1984. *Incised Channels: Morphology, Dynamics and Control*. Water Resources Publications, Littleton, CO.

Simon, A. (1992). Energy, time, and channel evolution in catastrophically disturbed fluvial systems. In *Geomorphic Systems: Geomorphology.* J.D. Phillips and W.H. Renwickeds. 5: 345-372.

Slickpoo, A.P. Sr. (1973). *Noon Nee-Me-Poo (We the Nez Perce) culture and history ofthe Nez Perces (Vol 1)*. United States: Nez Perce Tribe of Idaho.

Smith, B. 1975. Personal reference. Oregon Department of Fish and Wildlife. Enterprise, Oregon.

Suphan, R. J. 1974. Ethnological Report on the Umatilla, Walla Walla, and Cayuse Indians. In Oregon Indians II. Garland, New York, and London. pp. 88-182.

Suphan, Robert J. 1974, *The Socio-Political Organization and Land Use Patterns of the Umatilla, Walla Walla and Cayuse Indians.* MA dissertation. Columbia University, pp. 128-134.

Tucker, G.J. (n.d.). *Historical sketches of the Wallowa National Forest*. Unpublished document. On file with: U.S. Department of Agriculture, Forest Service, Supervisor‘s Office, Wallowa-Whitman National Forest, Baker City, OR 97814.

Wisdom, M. J., M. M. Rowland, B. K. Johnson, and B. Dick 2005a. History and overview of the Starkey Project: Mule deer and elk research for management benefits. March 20, 2004. Transactions of the North American Wildlife and Natural Resources Conference 69.

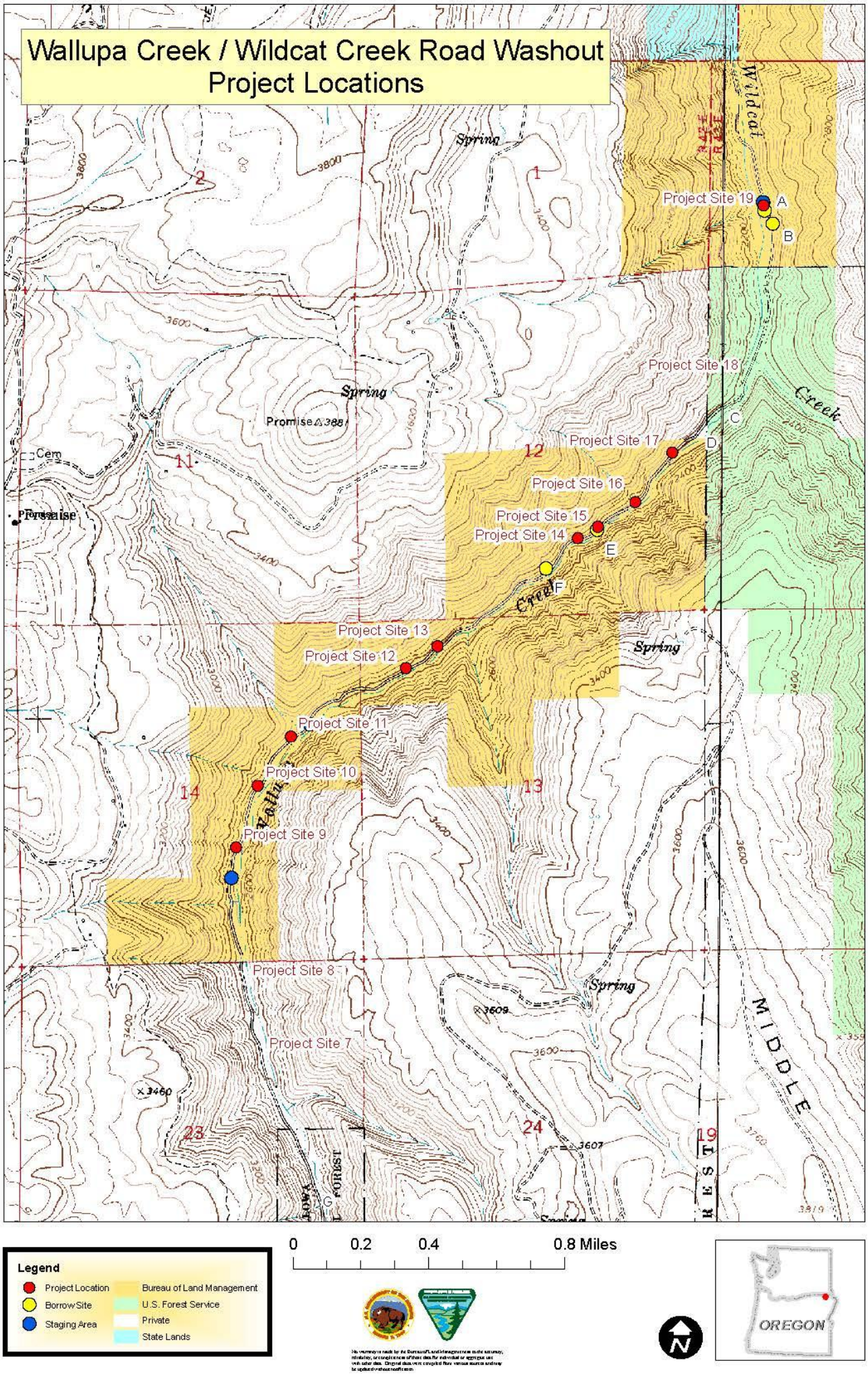
Wisdom, M. J., N. J. Cimon, B. K. Johnson, E. O. Garton, and J. W. Thomas 2005b. Spatial partitioning by mule deer and elk in relation to traffic. March 20, 2004. Transactions of the North American Wildlife and Natural Resources Conference 69.

Wisdom, M. J., A. A. Ager, H. K. Preisler, N. J. Cimon, and B. K. Johnson 2005c. Effects of off-road recreation on mule deer and elk. March 20, 2004. Transactions of the North American Wildlife and Natural Resources Conference 69.

Witmer, G. W., S. K. Martin, and R. D. Sayler. 1998. Forest carnivore conservation and management in the interior Columbia Basin: Issues and environmental correlates. Gen. Tech. Rep. GTR-PNW-420. USDA Forest Service, Pacific Northwest Research Station. Portland, OR. 51p.

U.S. Department of the Interior, National Park Service National Register, History and Education, 1990; Revised 1992; 1998. Guidelines for Evaluating and Documenting Traditional Cultural Properties. www.nps.gov/history/**laws**.htm

US Government Printing Office. 2002. Code of Federal Regulations “Coordination With the National Environmental Policy Act" Title 36 *Code of Federal Regulations*, Office of the Federal Register National Archives and Records Administration. Pg. 106. 2002 ed.


Wallupa Creek / Wildcat Creek Road Washout
Project Locations
Project Site 19
A
B
Project Site 18
C
Project Site 17
D
Project Site 16
Project Site 15
Project Site 14
E
F
Project Site 13
Project Site 12
Project Site 11
Project Site 10
Project Site 9
Project Site 8
Project Site 7
G
Wildcat
Creek
Spring
Promise
Cem
Legend
Project Location
Borrow Site
Staging Area
Bureau of Land Management
U.S. Forest Service
Private
State Lands
0
0.2
0.4
0.8 Miles
OREGON